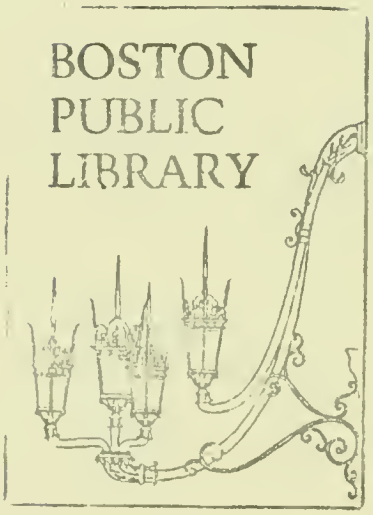
GOVDOC
BRA
1377
1979


BOSTON
PUBLIC
LIBRARY

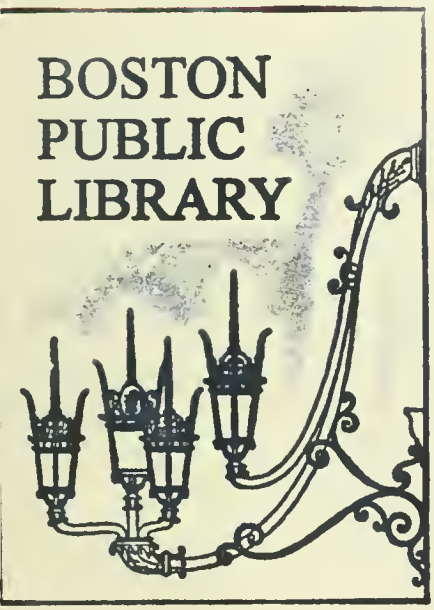
BOSTON PUBLIC LIBRARY
3 9999 06315 254 8

Economics Research Associates
Los Angeles • McLean • Orlando • Chicago • San Francisco • Dallas • Boston

334 Boylston Street
Boston Massachusetts 02116
(617) 261-1965

GOVDOC
BRA
377
1979

Property Of
BOSTON REDEVELOPMENT AUTHORITY
Library



RESIDENTIAL PROPERTY VALUE AND RENT IMPACT ANALYSIS FOR COPLEY PLACE DEVELOPMENT

PREPARED FOR
THE BOSTON REDEVELOPMENT AUTHORITY

OCTOBER, 1979

D R A F T C O P Y

Property Of
BOSTON REDEVELOPMENT AUTHORITY
Library

Copley Place
(Back Bay)
E 19 R 1979

prc
A Planning Research Company

TABLE OF CONTENTS

		Page
SECTION I -	MANAGEMENT SUMMARY.	1
SECTION II -	BACKGROUND AND APPROACH TO THE STUDY.	4
SECTION III -	HISTORICAL AND CURRENT TRENDS IN THE IMPACT AREA'S HOUSING STOCK	6
	A. IMPACT AREA DEFINED	6
	B. CHANGES WITHIN THE IMPACT AREA SINCE 1960.	7
	C. FACTORS WHICH HAVE CONTRIBUTED TO CHANGE IN THE IMPACT AREA HOUSING MARKET.	14
	D. CURRENT HOUSING MARKET CONDITIONS IN THE IMPACT AREA.	31
SECTION IV -	BASELINE PROJECTIONS FOR THE HOUSING MARKET IN THE IMPACT AREA.	46
	A. FACTORS WHICH ARE MOST LIKELY TO IMPACT THE FUTURE HOUSING MARKET WITHIN THE IMPACT AREA	46
	B. LIKELY BASELINE HOUSING MARKET CONDITIONS: 1980-1990.	50
SECTION V -	IMPACT ANALYSIS	57
	A. AN OVERVIEW OF THE PROJECT.	57
	B. CALCULATION OF DEMAND.	58
	C. INDUCED DEMAND.	71
	D. IMPACT ON RENTS AND PROPERTY VALUES	73
	E. AREAS WHICH COULD RECEIVE A DISPROPORTIONATELY LARGE SHARE OF THE IMPACT . . .	75
APPENDIX -	BIBLIOGRAPHY.	76

LIST OF TABLES

SECTION		PAGE
III-1	Trends in Population Per Household	9
III-2	Selected Demographic Characteristics of Impact Area Residents	11
III-3	Growth in U.S. Population by Age Group, 1947-83.	21
III-4	Population by Selected Age Groups, City of Boston 1960, 1970 and 1985 Projected.	22
III-5	Selected Population and Housing Characteristics for the City of Boston	23
III-6	Trends in Household Size for the U.S. and Boston	25
III-7	Past and Projected Enrollment at Northeastern and Boston Universities.	26
III-8	Distribution of Households by Income Level in the City of Boston 1960 and 1970 Actual, 1980 and 1985 Targets	30
III-9	Selected Characteristics of the Housing Stock in the Impact Area	32
III-10	Owner-Renter and Subsidized-Nonsubsidized Profile of the Impact Area Housing Stock: 1978/1979	33
III-11	Monthly Rents for East Fens 1979	35
III-12	Number of Persons on Waiting Lists at Selected Public Sector Housing Projects in the Impact Area.	37
III-13	Condominium Additions - City of Boston	38
III-14	Estimated Current Sales Price of Condominiums in Impact Area	40
III-15	Estimated Average Monthly Rent Levels and Vacancy.	41
III-16	Price Indices for Residential Rent and Shelter for the Boston Metropolitan Area	42
III-17	Purchasing Power of the Consumer Dollar.	43

LIST OF TABLES (continued)

SECTION		PAGE
III-18	Average Annual Increase in Apartment Rental Rates in the Impact Neighborhoods.	45
IV-1	Investment in Boston Past and Projected.	47
IV-2	Summary of Likely Impact Area Trends	53
IV-3	Baseline Profile of Housing Stock by Owner-Rental and Subsidized-Nonsubsidized Categories	54
V-1	Estimated Number of Copley Place Workers	60
V-2	Projected Occupational Distribution of Copley Place Workers.	61
V-3	Projected Salary Levels of Copley Place Employees.	62
V-4	Copley Place Average Employee Income	63
V-5	Projected Elements of Housing Market Demand within the Impact Area	68
V-6	Projected Increase in Households within the Impact Area 1970-1985.	69

LIST OF FIGURES

SECTION		PAGE
III-1	Census Tracts within the Impact Area	8
III-2	Trends in Real Estate Transaction Sales Prices in Selected Boston Neighborhoods	12
III-3	Total City Capital Expenditures.	15
III-4	Total Employment Trends City of Boston	18
V-1	Percentage Increases in Property Values on Selected Blocks within the Impact Area	72

SECTION I

MANAGEMENT SUMMARY

The objective of this study is to assess the impact which the proposed $300 million Copley Place mixed use development might have upon the housing market in the South End, Back Bay, Fenway and Bay Village, particularly on rents and property values. Overall, we believe the impact of Copley Place upon residential rents and property values within the impact area will be modest, because the Copley Place demand element (11-15% of average annual demand) is relatively small compared to the total average annual demand element and also because it represents a very small percentage of the stock of housing within the impact area (27,700 units). Further, the area has matured greatly since the Prudential Center was constructed and is less likely to realize any induced impact from the project. In addition, the demand element within the impact area will be regulated to a large extent by the high housing prices within the area. Finally, the price of housing is a function of a great many variables as evidenced by our study of property values in the impact area, and inflationary forces, increased transportation costs and the increasing demand for real estate ownership (most recently for condominiums) are all likely to have a significant impact upon housing prices in the impact area.

The largest impact upon the housing market as a result of Copley Place will occur outside of the impact area in neighborhoods where the prevailing rent structure is more commensurate with the salaries of the projects' employees, the majority of whom will be non-professional. The impact upon the housing stock will be diffused throughout the city, particularly in areas along existing MBTA routes.

Because of the projective nature of the assignment (the completion date of the project is 1983 with rent-up likely to be completed by 1986), we felt it was imperative to establish the proper context for assessing the potential impact of the project. Therefore, our approach was to first identify and review those forces which, in prior years, had been responsible for change in the housing market in neighborhoods adjacent to the proposed project. This enabled us to more precisely

define the impact area and to document the interrelationship of the many forces which historically have caused a change in the housing stock of the area, disrupted established communities, changed the socio-economic profile of area residents and increased the value of real estate. The forces behind these changes include the massive urban renewal program in the South End, the generation of over 90,000 office jobs from 1968 to 1978 in the inner city, the maturation of the post war babies, the tendency towards smaller households, the vulnerability of the housing supply in terms of price and location (and the opportunity it presented) and changing lifestyles which made it more fashionable to live in the inner city. Understanding the many forces which have historically caused change within the impact area provided the framework for defining those factors which would most likely have the greatest impact upon future housing market conditions within the area. In essence it allowed us to place current market conditions within the impact area in their most likely future perspective.

The impact area today has about 27,700 housing units and 52,500 people, roughly 11% and 8% of the Boston housing units and population, respectively, reflecting the greater number of young professional people and the fewer number of people per household living in the area. More than 3,400 units, or approximately 12% of the housing units in the impact area, are subsidized. Effective housing demand (including the Copley Place increment) within the impact area during the 1976 to 1985 year period is expected to range from 1,400 to 1,800 units per year on an average annual basis. We estimate that the portion of this demand attributable to Copley Place will range from 200 to 210 households per year over a five year period. Although total Copley Place employment is estimated to be in the 6,300 to 6,700 range, many of these jobs are non-professional and relatively low paying. Prevailing rents within the impact area may preclude some from living in the area, although others might be able to share a unit or qualify for subsidized housing within the area. Also many workers will simply remain in their present neighborhoods, and this tendency has been documented by several surveys of prominent Back Bay employers.

The housing stock in the impact area is being continually upgraded as conventional market rate housing, and as such is increasingly affordable by primarily middle and upper income households. Rents and property values have increased to the point where they are comparable if not greater than the suburbs. In essence, the area is not as vulnerable (or ripe for speculative opportunity) as it was 10-15 years ago when the Prudential Center was built, but the area is very much in demand as a place to live for those who can afford it.

In addition to the proposed Copley Place development, there are a number of other important factors which are likely to have an impact upon the price and availability of housing in the impact area. Among these factors is the continued growth in inner city employment which, when viewed within the context of rising transportation costs, will likely place increasingly greater pressure on inner city housing. The completion of the Southwest Corridor Project, scheduled for 1985, will greatly improve the environment of those blocks in the South End and Fenway which are adjacent to the railroad tracks. Likewise the completion of urban renewal activities within the South End will contribute to the enhancement of the physical environment in this neighborhood, thereby making it more attractive for upper income renters or buyers. Reassessment is another factor which could impact certain neighborhoods, particularly the South End, resulting in the displacement of low, moderate and middle income renters and low to moderate income owner occupants. Other factors such as the willingness of low and moderate income owner occupants to sell their homes, the future of the many businesses and junior colleges in the Back Bay, the continued desire of the 25 to 44 year old age group to live in the city plus the continued demand for condominiums, all will contribute to the future price and availability of housing within the impact area, as well as the entire city. In summary, while Copley Place will have some impact upon the housing market, there are numerous other forces which will probably have an even greater impact upon housing within the impact area.

SECTION II

BACKGROUND AND APPROACH TO THE STUDY

A. BACKGROUND

The need for this study evolved largely through the concerns of numerous community groups who have witnessed tremendous changes in the price and type of housing within their neighborhoods. This study will become part of the Environmental Impact Statement for the project. Areas where the private investment market was weak, such as the South End and Fenway, have become increasingly more affluent as the process of neighborhood and building restoration has gained momentum in the last decade. Other neighborhoods such as the Back Bay have become both more homogeneous and more affluent as the demand for inner-city housing has increased.

The "benchmark" against which much of this change has been measured is the Prudential Center complex. Construction for the project began in the mid 1960's against a backdrop of pessimism for the future of the inner city. Today this project is credited by many with reversing a negative image of the city and sparking the growth and revitalization which is occurring in many parts of the city today. On the other hand, the Prudential Center complex is also credited with much of the price escalation and disruption in the housing market in those neighborhoods adjacent to the project.

B. OUR APPROACH TO THE STUDY

Because the construction of the Prudential Center marks a turning point in the redevelopment of Boston, this study begins with a detailed examination of the major forces which were at work since the early 1960's when the Prudential Center construction began. We also undertook an analysis of property values on selected streets within the impact area over the past 20 years. The results from the property value analysis suggest, among other things, that the increased acceptance of condominiums has had a greater percentage impact upon property values than other events occurring during the same period of time. Overall,

our historical review highlighted the fact that a wide variety of forces were operating simultaneously in the city and the impact area, and that a single event such as the Prudential Center development should not be given the primary responsibility for causing change.

Historical analysis alone does not provide the methodology for an impact assessment, rather it helps provide the proper context within which to view the impact analysis. For example, some of the workers within the Copley Place development will want to live within close proximity to their place of employment, much as they do at the Prudential Center, the John Hancock Building and the Christian Science complex. However, the ability of these workers to find housing commensurate with their levels of income is another matter, particularly since the housing market has changed so much in the past 10-15 years. Therefore, to establish the proper context for assessing the impact of the project in the mid 1980's, we defined the current and likely future housing market conditions in the area. Using this approach, we then have a baseline against which to measure the incremental impact of the Copley Place demand element. This incremental demand element provides the basis for assessing the impact of Copley Place upon rents and property values in the impact area.

Finally, recognizing that our analysis utilizes numerous assumptions, we identified those key assumptions which we believe could make our findings either more conservative or more extreme. Throughout the analysis our overall approach was to be reasonable and realistic, and we believe our findings reflect this attitude. Also, the report is an assessment and as such does not address the question of mitigating measures.

SECTION III

HISTORICAL AND CURRENT TRENDS IN THE IMPACT AREA'S HOUSING STOCK

This section of the report is organized around four subsections which collectively seek to describe the impact area around the proposed Copley Place development, the change which has occurred within this impact area over the last 20 years, the factors which we believe have collectively been responsible for this change and finally, current market conditions which exist within the area. The changes which have occurred within the impact area are many and complex. Our intention is primarily to identify and describe those major forces which were important over the last 20 years in reshaping and restructuring the housing market within the impact area.

A. IMPACT AREA DEFINED

The impact area as defined includes only those neighborhoods that border the Copley Place development site. The neighborhoods within the impact area are: Back Bay, South End, Fenway and Bay Village. The boundaries of the area are contiguous with the boundaries that the BRA uses to define these neighborhoods, with the exception of the South End. The following census tracts are included in each neighborhood within the impact area:

- South End (tracts 703-709)
- Fenway (tract 104 and portions of tracts 105 and 106)
- Back Bay (tracts 107 and 108 and portions of tracts 101, 105 and 106)
- Bay Village (central most portion of tract 703 and westernmost portion of tract 702)

Our criteria for defining the impact area was based upon neighborhood proximity to the proposed project (a 15 minute walk was the general rule of thumb), plus discussions with area realtors and property managers and our own knowledge of the area. The entire South End was

not included in the impact area because we believe the area south of Washington Street (710-712) and the area west of Massachusetts Avenue (804-806) is too physically separated from the rest of the South End to be within the impact area. Stated another way, external forces are more likely to impact these areas, such as activities at the Boston City Hospital. Figure III-1 illustrates each census tract which was included within the impact area.

B. CHANGES WITHIN THE IMPACT AREA SINCE 1960

The magnitude of change in population, employment and the housing stock within all portions of the City, as well as the impact area, has been tremendous over the past 20 years. This is a result of structural changes in the economy, as well as demographic factors and new life-style preferences of the population. This change can be expressed in both statistical terms (such as the change in the number of housing units) and in more human terms (such as the displacement of long term residents in a community). Our purpose here is not to list all possible changes nor to evaluate them (indeed this would probably be impossible), rather this subsection describes, in more general terms, changes which have occurred to the stock of housing, population and the value of real estate in the impact area. The following subsection will discuss in detail the major forces responsible for these changes.

Data in Table III-I provide a summary of the major trends in population and the number of housing units in the City of Boston and the impact area. Population both within the City of Boston and the impact area declined from 1960 to 1970, however population in the impact area has begun to increase from 48,534 in 1970 to 52,587 in 1976. The population for the City as a whole is continuing to decline, but is expected to stabilize in the future. The data in Table III-I also highlight the fact that dramatic changes were occurring in the number of housing units in the city, particularly in the impact area. From 1960 to 1970 the number of units in the impact area declined from 34,138 to 24,568, largely reflecting demolition activities associated with urban renewal programs in the South End and Fenway, plus the conversion of

Figure III-1

CENSUS TRACTS WITHIN
THE IMPACT AREA

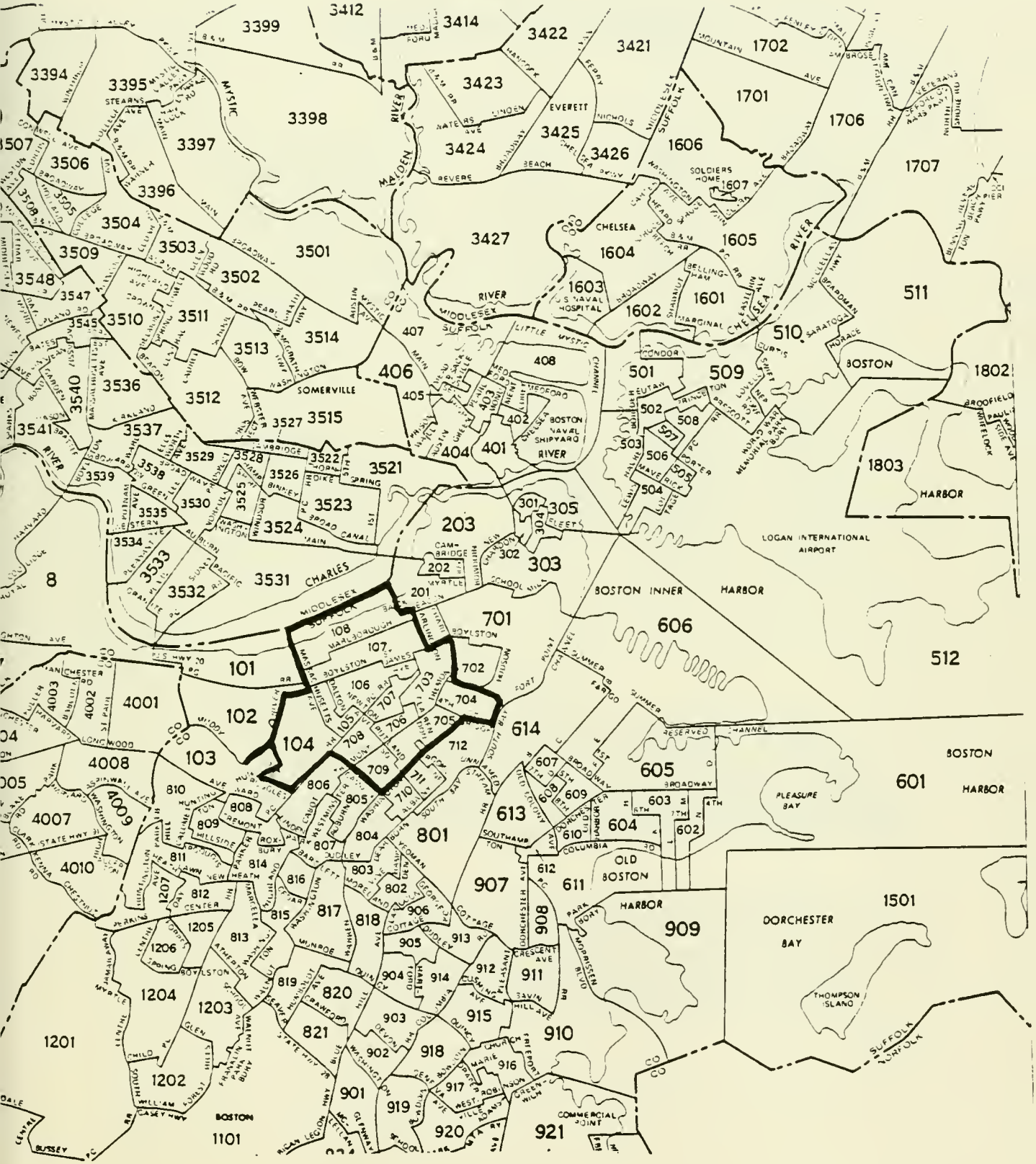


Table III-1

TRENDS IN POPULATION PER HOUSEHOLD

City of Boston:	1960	1970	1975
Total Population	697,197	641,071	637,986
Total Housing Units	238,816	233,388	241,897
Persons per Housing Unit	2.9	2.8	2.6

Impact Area:	1960	1970	1976
Total Population	62,808/1	48,534/2	52,587/2
Total Housing Units	34,138/1	24,568/2	27,764/2
Persons per Housing Unit	1.84	1.97	1.89

/1 Includes the entire South End.

/2 Includes only those Census tracts in the South End defined to be in the impact area (703-709). Stated on a comparable basis, population and housing in the impact area plus the remainder of the South End in 1970 were 55,194 and 27,698, respectively. In 1976, population and housing were estimated to be 58,531 and 30,902 respectively.

Source: U.S. Census for 1960 and 1970, State Census for 1975, the Boston Redevelopment Authority for estimates of housing units in the impact area, the Metropolitan Area Planning Council estimates for 1976, and Economics Research Associates.

rooming houses to rental apartments. The fact that both subsidized and market rate rental housing units were constructed during this time frame actually underscores the amount of demolition and rooming house conversion which took place. Since 1970 the number of housing units and the population have both increased within the impact area, largely reflecting the continued construction of primarily subsidized housing units in the South End, the conversion of some owner occupied single family residences and rooming houses into one to five rental units and the reclaiming of burned out shells.

Concurrent with the change in housing stock were changes in the demographic composition of area residents. The data in Table III-2 highlight certain demographic characteristics of change, namely, age, percent black and family income. The percent of black residents in the Fenway has increased while the percentage has declined in the South End from 39% to 28%. The percentages for Back Bay and Bay Village have remained constant and were historically quite low (2% to 4%).

The impact area has witnessed a tremendous increase in the population aged 25-34. The percent of population in this age group was estimated at 18%, 34% and 25% for the Fenway, Back Bay and the South End, respectively. On a percentage basis relative to the total population, the impact area has more residents in the 25-34 year age group than the City of Boston.

Family incomes within the impact area have all risen, with the greatest rates of increase from 1970 to 1978 occurring in Back Bay and Bay Village. In 1978, the Back Bay ($24,900) had the highest median income in the impact area, followed by Bay Village ($16,530), and the South End ($10,000). The median income for the city of Boston in 1978 is estimated at $12,000.

The value of real estate has also risen dramatically in the impact area since 1960. As part of this impact study we conducted a survey of residential sales price trends on 11 streets in the impact area (see Figure III-2). The streets were selected to be representative of a neighborhood or a portion of a neighborhood and also to reflect various stages of rehabilitation. Units of comparable size and number of floors were chosen in the analysis.

Table III-2

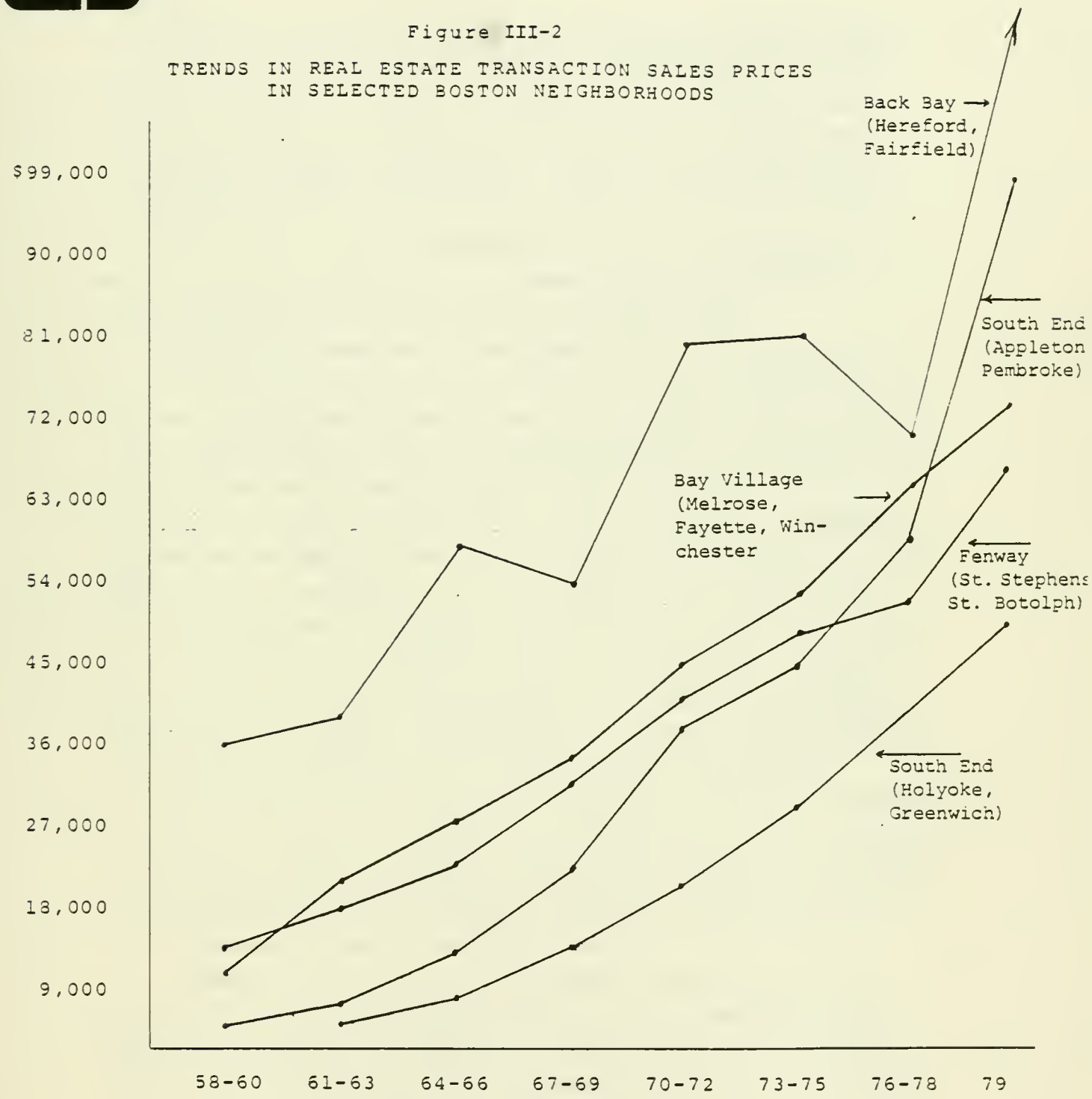
SELECTED DEMOGRAPHIC CHARACTERISTICS
OF IMPACT AREA RESIDENTS

Impact Neighborhood	Percent Black			Age Group 25 - 34			Median Family Income		
	1960	1970/5	1977	1960	1970/5	1977/3	1960	1970/5	1978
Fenway	N/A	11%	19%/3	N/A	4%	18%	N/A	8,400	N/A
Back Bay	2%/5	2%	4%/3	18%	19%	34%	N/A	19,778	24,900/7
South End	39%/1	32%	28%/2	N/A	15%	25%	4,542/6	7,038	10,000/1
Bay Village	N/A	4%	N/A	N/A	17%/4	N/A	N/A	12,000/4	16,530/3
City of Boston	9.8%/9	16%	20%/3	N/A	12%	20%	7,206/5	9,133	12,000/8

/1 BRA estimate for the entire South End.
/2 Concensus Urban Renewal Close Out Survey in 1978.
/3 Hart Research Associates Survey, 1977.
/4 ERA estimate based on U.S. Bureau of the Census.
/5 U.S. Census.
/6 BRA estimate based on entire South End.
/7 Mean family income for 1976 based on M.A.P.C. estimate.
/8 ERA estimate based on Hart Research Associates Survey.
/9 Percentage total minorities.
N/A = Not available.

Figure III-2

TRENDS IN REAL ESTATE TRANSACTION SALES PRICES
IN SELECTED BOSTON NEIGHBORHOODS



Source: Real Estate Transaction Files at the Boston Redevelopment Authority and Economics Research Associates.

Referring to the data in Figure III-2, sales prices were highest in the Back Bay and the Fenway in the initial 1958-1960 period. Within the next three years, however, Bay Village sales prices permanently rose above those in the Fenway and doubled before the 1964-66 period. Sales prices on Appleton and Pembroke Streets in the South End were quick to follow; between 1961-1963 and 1967-1969 sales prices there more than tripled. In the comparable period in the South End, but in an area which had relatively little rehabilitation and conversion (Holyoke and Greenwich), sales prices more than doubled.

Throughout the remainder of the study period (1969-1979) sales prices rose consistently in all neighborhoods with the exception of the Back Bay, which showed a modest amount of real estate market instability. Average sales prices in the Holyoke/Greenwich Park portion of the South End rose consistently but were, in all cases, lower than the sales prices in any of the other study areas. Prices in the Appleton/Pembroke area of the South End rose at a rapid rate from 1976-1979 and topped those in the Fenway and in Bay Village. Sales prices in this area were topped only by prices in the Back Bay which have skyrocketed in the last few years largely as a result of the demand for condominiums and the higher resale possibility of a building which could be converted versus operated as rental units. The data from this analysis will be discussed more fully in a later section of this report.

The BRA also conducted a study of residential sales price trends in selected neighborhoods throughout the City from 1960 to 1972. Generally this study showed that property values in the impact area and in the North End/Central area and Charlestown area rose at roughly twice the rate of property values for the City in general.

In summary, the impact area has undergone considerable change in the last 20 years as evidenced by overall trends in population, the demographic makeup of this population, and the price of real estate in the area. Also of interest is the observation that the relative value of real estate between the various neighborhoods within the impact area has remained similar, with the exception that selected streets within the South End appear to be increasing in value at a rate more commen-

surate with the Back Bay, whereas 20 years ago areas in the Fenway and Bay Village showed more comparable gains with the Back Bay (see Figure III-2).

C. FACTORS WHICH HAVE CONTRIBUTED TO CHANGE IN THE IMPACT AREA HOUSING MARKET

A wide variety of local and even national and international forces have interacted to cause change in the housing market within the impact area. These factors are discussed in some detail below to establish the proper context for assessing the cause and effect relationships and also to provide a basis for projecting future housing market conditions. The factors which will be discussed are public policy and expenditures, growth in inner city service sector employment, changing demographics and growth in college enrollments, the vulnerability of the supply, changing lifestyles, increased income and finally, location. Each of these factors is discussed below:

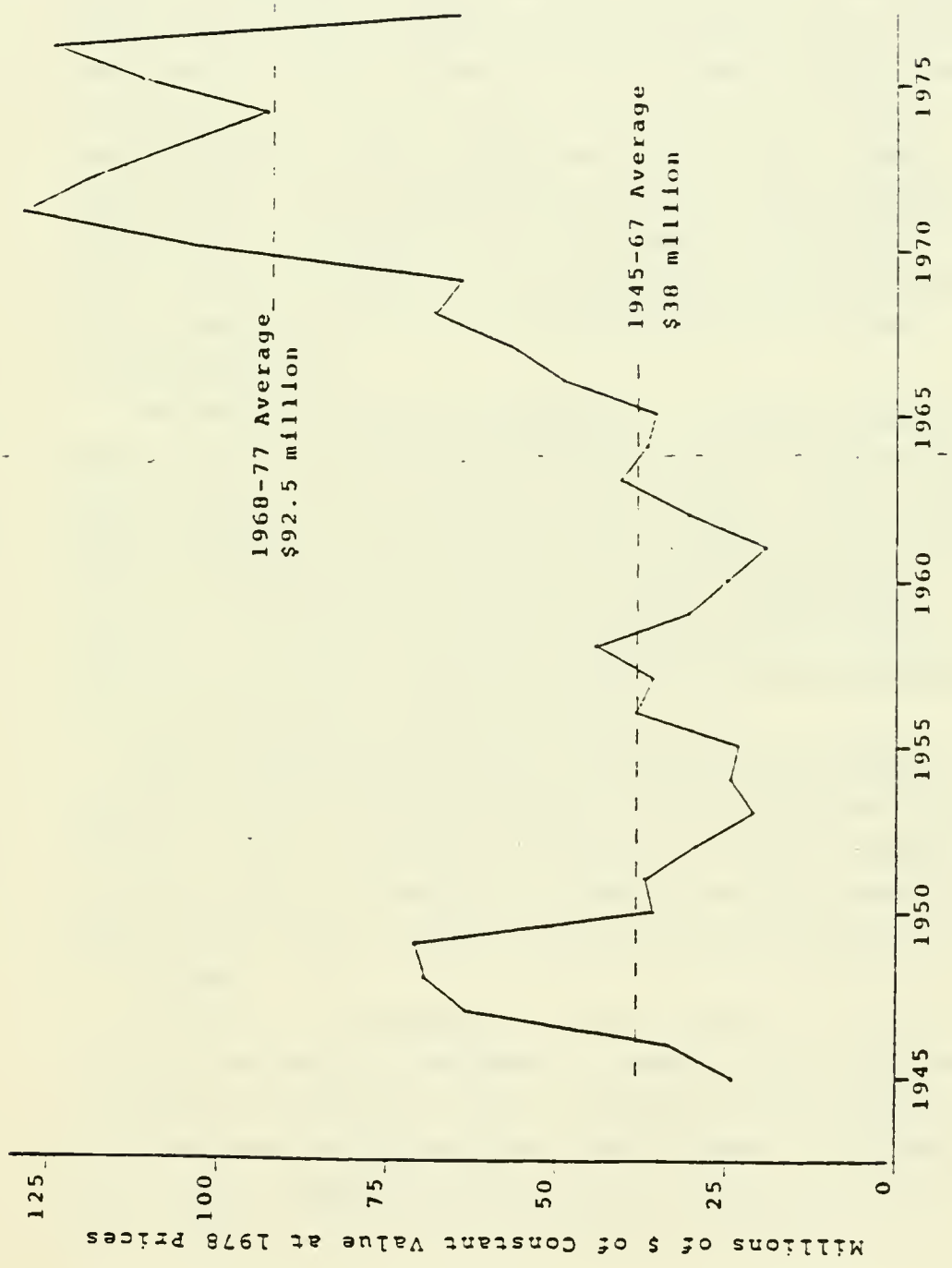
- Public Policy and Expenditures:

  "The challenge of the last decade was no ordinary one for Boston or its Mayor. Thirty years of neglect of public improvements and private investment, following the onset of the national depression in 1929, had taken their toll in population decline, job loss, and a City in an advanced stage of decay."

  The above quote, taken from A Decade of Development in Boston, published in May 1979, summarizes conditions within the City prior to a major increase in public expenditures in the mid 60's. The data in Figure III-3 reflect the magnitude of this increase in constant 1970 dollars. Essentially from 1945 to 1967, average annual City Capital expenditures were $38 million. For the period 1968 to 1977 they increased to $92.5 million per year, roughly an increase of 2½ times the earlier level. This investment was used to stimulate new office construction, improve basic City services, rebuild aging infrastructure (such as water and sewer lines), demolish and con-

Figure III-3

TOTAL CITY CAPITAL EXPENDITURES
1945 - 1977



Source: BRA Research Department Series Based on Auditing Department Annual Reports.

struct housing, hospitals, etc. Of particular significance to the impact area were the urban renewal programs which began to rebuild blighted areas. For example, the city has been responsible for substantial street improvements in the St. Botolph's and St. Germain areas, the Bay Village and many streets in the South End. In fact, the South End urban renewal program (comprising about 600 acres) is one of the largest in the nation. The improvements include (besides new utility lines), resurfaced streets, brick sidewalks, new street lights, resurfaced alleyways, new landscaping, street furniture, and new mini parks. Within the next five years infrastructure improvements in the remaining portions of the South End should be almost entirely completed.

The magnitude of public investment in 3 of the 4 neighborhoods since 1965 has been considerable, with the South End being the largest single recipient of these funds. Estimates of public investment are $135 million for the South End, $42 million in the Fenway and $40 million in the Bay Village/South Cove area. Comparable data are not available for Back Bay because it is the only neighborhood within the impact area which was not designated an urban renewal area.

Recent discussions with the Fenway Project Area Committee (FenPac) highlight the current significance of this type of investment on Edgerly Road in the Fenway. Reportedly in response to a city program to improve the sidewalks and street environment within the block, property values have jumped $20,000 in 6 to 9 months.

In summary, the expenditure of public funds in the impact area over the last 15 years began to restore public confidence in these areas, which has in turn leveraged or encouraged private investments within the area. This increase in confidence coupled with a growth in demand for inner city housing began to place pressure upon the housing stock in the impact area.

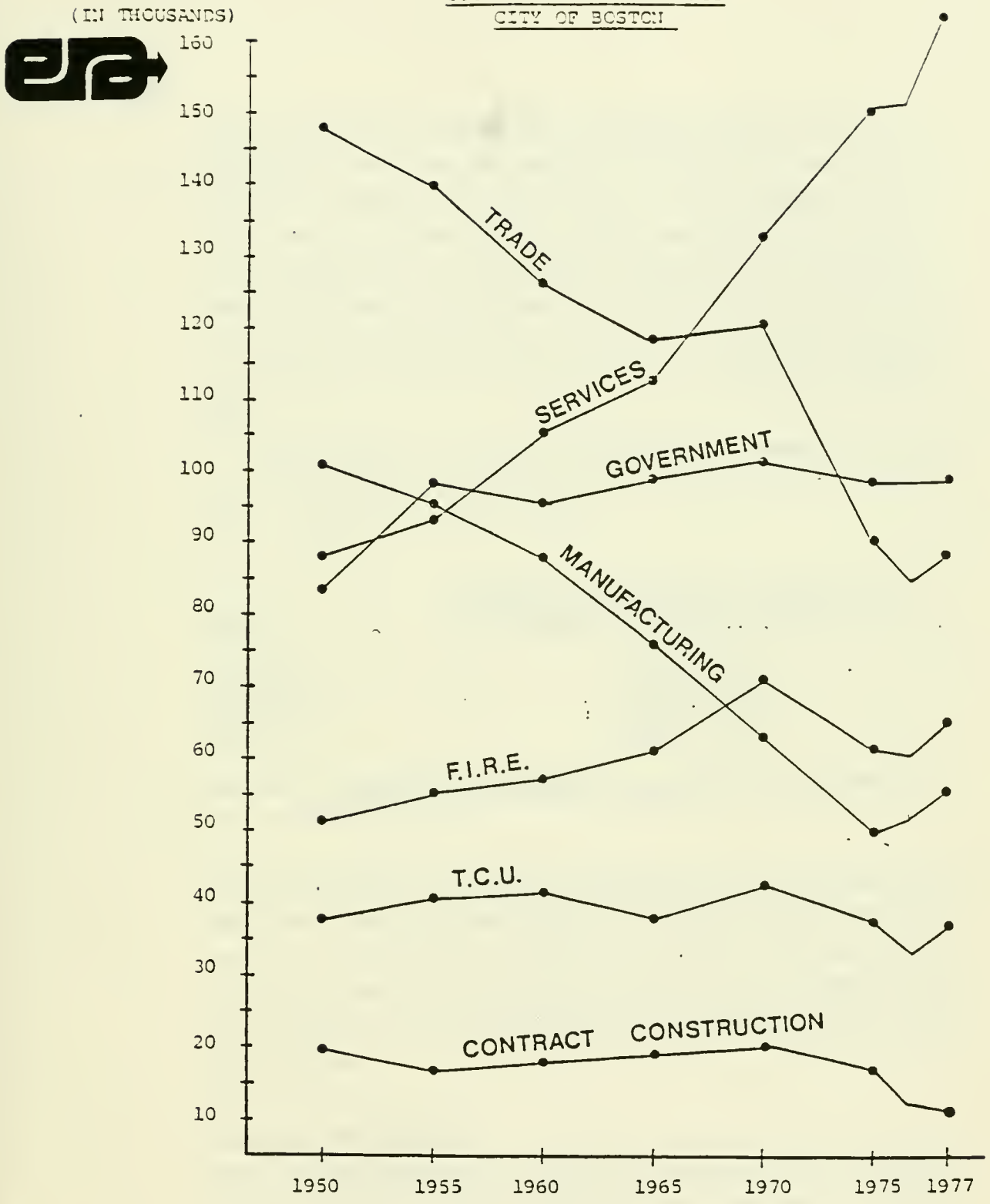
- Growth in Inner City Service Sector Employment

Unlike many cities throughout the country, much of the growth in service sector employment in Boston has occurred within the inner city rather than in the suburbs. Within the city, total employment remained at about the 550,000 level from 1950-1960, and increased slightly to 575,000 by 1970 with manufacturing employment declining substantially. Manufacturing declined by 50 percent from 1950-1975, and since then has shown some modest increases. The loss in manufacturing jobs was due to changing technologies, transportation networks, and changing manufacturing space requirements--all of which contributed to the declining function of the central city for manufacturing.

Wholesale and retail trade employment declined by 40 percent as merchandising techniques changed and the suburban shopping centers were developed. Contract construction and transportation, communication, and utilities (T.C.U.) employment exhibited modest declines while finance insurance and real estate (F.I.R.E.) and government have shown modest growth. Service employment has experienced the most dramatic growth during this 27 year period, largely offsetting the declines in manufacturing and retail trade. The cause of the increase in service jobs is multi-faceted. First, the number of service jobs is becoming more and more prevalent in the U.S. economy. Second, there has been a great deal of investment in hospitals and educational facilities in Boston, as well as an increase in office construction. The above trends are illustrated in Figure III-4.

One of the outgrowths of the changing employment composition has been an increasing concentration of jobs in downtown Boston, coupled with an increased interest in inner city living prompted by a desire to be closer to work (we recognize that there are other reasons people have become more interested in inner city living and these reasons will be discussed later on in the report). While the Boston population was stable or declining between 1968 and 1978, the city gained more than 90,000

FIGURE III-4
TOTAL EMPLOYMENT TRENDS
CITY OF BOSTON



Source: Boston Revedelopment Authority for 1950-1976;
Economics Research Associates 1977.

office jobs--most of which were located in the inner city. In the impact area alone ERA estimates that between 1960 and 1978, 17,900 new office jobs were generated. This accounts for approximately 16 percent of all office jobs generated by new office construction in the downtown area since 1960. Foremost among these projects was the development of the Prudential Center complex which provided not only new jobs but an important psychological "lift" to the entire City, including the impact area.

Shown below are estimates of the square footage of new office construction in downtown Boston (including the central area as well as the impact area).

Period	Average Annual Increase in Office Space As a Result of New Construction
1961-1967	700,000 S.F.
1968-1970	650,000 S.F.
1971-1973	1,218,000 S.F.
1974-1977	1,895,000 S.F.

Source: A Decade of Development in Boston, Boston Redevelopment Authority, 1979.

Various studies by the BRA have documented the increased demand for inner city living by office (or largely service sector) workers. With the general lack of new market rate housing being constructed within the inner city in the last decade, it is no surprise that much of the demand has been channeled into rehabilitation.

- Changing Demographics

While the increased level of public expenditures and the increase in service sector employment were important factors in stimulating a renewed interest in the inner city, the maturation of the post World War II baby boom also provided another stimulus to the housing market in the impact area. This phe-

nomenon was typical throughout the United States (as illustrated in Table III-3) but was more pronounced in Boston because of the presence of a large number of schools and universities. The data in Table III-4 illustrate the changes which have occurred and are expected to occur by age groups from 1960 to 1970 and from 1970 to 1985 for the City of Boston. For the period from 1960 to 1970, every age group within the City declined with the exception of the 10 to 24 year old group. From 1970 to 1985 the 20 to 44 year old age group is projected to increase by 91,000 while all other age groups continue to decline. During this period the City would have an overall population increase of only 6,692. These projections to a large extent are based upon certain assumptions regarding the postponement of children by professional couples and also their long term desire to remain in the city as their children reach school age. The projections, which were developed by the BRA, may be optimistic or pessimistic to the extent these assumptions are realized, but they highlight the increased interest in inner city living by the young professionals, and increasingly, the middle aged.

In conjunction with the increase of the 10 to 24 year old age groups within the City during the 1960's, the average household size declined, reflecting a number of social factors including the movement of families with children to the suburbs during the 1950's, the emergence of young professional couples who would postpone having children (or have fewer children than earlier generations) and the growth in the student population. The data in Table III-5 illustrate the relationship between overall city population, the supply of housing units and the average household size. The factors are important because they collectively help explain how a declining city population can demand more housing units For example, as the population within the city declined from 697,000 in 1960 to 637,900 in 1975, the number of housing units remained relatively constant over-

Table III-3

GROWTH IN U.S. POPULATION BY AGE GROUPS, 1947-83/1

(Average annual rates of change)

	All Ages	Under 16	16-24	25-34	35-44	45-54	55-64	Over 65
				(Percent)				
1947-66	1.6	2.6	1.6	-0.1	0.9	1.4	1.7	2.8
1966-73	1.0	-0.7	2.9	3.3	-0.9	1.1	1.5	1.9
1973-78	0.8	-1.7	1.5	3.5	1.3	-0.5	1.4	2.4
1978-83/2	0.9	-0.2	-0.6	2.6	3.6	-0.7	1.0	1.7

/1 U.S. Population includes armed forces overseas.
/2 Projections of population are based upon Census Series II estimates.

Source: Bureau of the Census.

Table III-4

POPULATION BY SELECTED AGE GROUPS, CITY OF BOSTON
1960, 1970 AND 1985 PROJECTED

	1960	1970	1985	Change 1960-1970	Change 1970-1985
Under 9	120,947	101,624	95,017	-19,323	- 6,607
10-14	50,865	51,057	34,213	192	-16,844
15-19	51,989	61,060	49,111	9,071	-11,949
20-24	54,547	77,103	82,619	22,556	5,516
25-34	89,004	79,353	142,999	- 9,651	63,646
35-44	84,323	60,719	83,153	-23,604	22,434
45-54	83,874	65,457	47,357	-18,417	-18,100
55-59	40,033	32,082	23,125	- 7,951	- 8,957
60-64	36,830	30,749	22,182	- 6,081	- 8,567
65-74	56,970	49,441	38,179	- 7,529	-11,262
75+ over	28,699	32,277	29,808	3,578	- 2,469
TOTAL	698,081	641,071	647,763/1	-56,990	6,692

/1 Other recent BRA population projections indicate that Boston population in 1985 will range between 650,700 and 660,400.

Source: Bureau of the Census, Boston Redevelopment Authority, and Economics Research Associates.

Table III-5

SELECTED POPULATION AND HOUSING CHARACTERISTICS
FOR THE CITY OF BOSTON

	Population (000's)			Housing Units (000's)			Household Size
	High	Estimated	Low	High	Estimated	Low	
1960		697,197			238,816		2.9
1970		641,071			233,388		2.8
1975		637,986			241,897		2.6
1980		644,300			243,600		2.6
1985	660,400		650,700	247,900		244,700	2.6
1990	676,500		657,200	253,900		247,100	2.6

Source: U. S. Census for 1960 and 1970, State Census for 1975, the Boston Redevelopment Authority, Research Department and Economics Research Associates.

all, yet the demand for housing, particularly in the central area and the impact area grew stronger. This is because the average number of persons per household was declining from 2.9 to 2.7, so that in effect more housing was being demanded by relatively fewer people per housing unit. The average household size is declining not only in Boston but also throughout the U.S. as illustrated in Table III-6.

The large increases in the 10 to 24 year old age group in Boston during the 1960's and the 20 to 44 year old age group projected to increase during the 70's and 80's are attributable to a number of interrelated factors, the two most important of which are the growth in service sector employment and the increase in University enrollments. While we have previously discussed the growth in inner city service sector employment, the increase in school enrollments also warrants some discussion. The data in Table III-7 illustrate the growth in student population for Northeastern University and Boston University since 1958. Northeastern University's enrollments have doubled over the last 20 years, increasing from 16,213 to 37,584. During the latter part of the 60's, at the height of their enrollments, the University had about 1,600 on-campus housing units. The remainder of the students either lived at home or rented within the inner city, often within the impact area. Assuming 3 students per unit, Northeastern University students alone could have demanded up to 10,000 housing units in the city.

In addition to these two major Universities within close proximity to the entire impact area, a number of junior colleges and business schools also exist within the Back Bay and Fenway. Examples include Newbury Junior College, the Bay State Junior College of Business and Berkeley College of Music. These smaller schools have been under pressure (along with many major colleges) because of declining enrollments and rising costs, as evidenced by the recent closing of Graham Junior College. The future of these smaller schools is one of many variables which

Table III-6

TRENDS IN HOUSEHOLD SIZE FOR THE
U.S. AND BOSTON

Year	Average Size	
	U.S.	Boston
1950	3.37	N.A.
1960	3.33	2.9
1970	3.14	2.8
1975	2.94	2.7
1980	2.75	2.6
1983	2.68	N.A.
1985	N.A.	2.6
1990	N.A.	2.6

Source: U.S. Bureau of the Census and Boston Redevelopment Authority.

Table III-7

PAST AND PROJECTED ENROLLMENT AT
NORTHEASTERN AND BOSTON UNIVERSITIES

	Northeastern University	Boston University Charles River Campus and Medical Campus
1958	16,213	18,364
1959	17,138	18,202
1960	17,697	18,411
1961	18,876	18,649
1962	21,090	19,635
1963	22,219	19,628
1964	26,179	20,902
1965	32,053	21,926
1966	33,365	21,836
1967	37,300	22,955
1968	37,105	23,806
1969	38,584	23,826
1970	36,874	25,124
1971	35,211	24,568
1972	35,152	23,362
1973	36,155	23,581
1974	36,955	24,622
1975	39,008	24,292
1976	37,440	24,245
1977	38,056	25,048
1978	37,584	25,705
1985	33,000	N.A.
1990	35,000	N.A.

Source: Northeastern University, Boston University, and Economics Research Associates.

might impact the future supply of housing for inner city workers within the next decade.

- Vulnerability of the Supply:

While the above factors describe some of the major forces behind an increased demand for inner city living, a number of variables have affected the stock of housing from a supply perspective. For example, urban renewal activities in the South End disrupted established community relationships. Likewise the exodus of families from the inner city to the suburbs, beginning in the 1950's contributed to a decline in community spirit. A more transient population developed, sustained in part by the increased student population.

Inflation and the resultant increases in the operating costs of property, coupled with the trend towards smaller families and the decline in the boarding house business, led to the conversion of many 3 to 6 story homes to apartment units, which sometimes were owner-occupied. The closing of several old hotels and schools in the Back Bay saw the conversion of non-residential properties to residential. The enactment of rent control in 1972 further constrained the landlords and provided another impetus to condominium conversions.

Overall property values in the impact area, particularly in the South End, were generally depressed relative to the suburbs in the 1960's and early 1970's, thereby providing bargain priced housing for many of the young profesionals being attracted to the city. Ten years ago a townhouse shell could be purchased in the South End for $10,000 or less, whereas today, the cost exceeds $40,000. With some "sweat equity" the buyer could often occupy an inner city home at a considerable savings over the suburbs, although today this differential has changed and the gap narrowed. The opportunity for the real estate developer was also considerable because an older unit (or shell) could be acquired and rehabilitated at an overall cost per unit

which was below that of new construction. The data below summarize trends in new construction in the city from 1960 to 1975:

	Subsidized Units	Privately Financed Units	Total Units
1960-69	5,006	15,156	20,162
1970-75	8,479	2,366	10,845

As the data above indicate, the amount of privately financed new construction in the city has declined dramatically since 1970, largely because increases in rents were not commensurate with increases in construction and operating costs.

In summary, the gradual disruption of established communities within neighborhoods, the trend towards smaller families and difficulties in operating rental properties and/or boarding houses, coupled with increased operating costs of these properties, helped contribute to their vulnerability. It is therefore no surprise that many of these properties became excellent investment opportunities for the increasingly affluent young professional seeking an inner city residence.

- Changing Lifestyles:

"If a rediscover the city movement is to amount to much, an adventurous middle class subset of the baby boom generation will be on its leading edge. There are several reasons for this. One is that a tolerance toward or even a desire for a degree of cultural and racial heterogeneity seems most marked among this group. Another reason is that, as trend-setters, such people are alert to city options (a new interest in old houses) while the bulk of society remains fixed on a suburban ideal. Still another reason is that with relatively high earning power, they can find ways to live around such urban difficulties as poor public education..."

The above quote taken from a Parkman Center for Urban Affairs report entitled Young Professionals and City Neighborhoods, captures some of the elements envisioned under the subheading of changing lifestyles. Other researchers have also attempted to study some of the factors behind a renewed interest in inner city living in neighborhoods undergoing socioeconomic change. An analysis by Dennis E. Gale, a Professor at George Washington University, of residents entering Washington D.C.'s Mount Pleasant neighborhood, reveals that 63 percent of the immigrating residents were in the 25 to 34 age group. Likewise, a recent survey by Tim Pattison in the Bay Village area of Boston reveals that 63 percent were in the 25 to 34 age group.

Four reasons were cited in these two studies to explain why this age group was attracted to inner city housing. First, the areas had acceptably priced housing; second, the residential units represented a good investment potential; third, the area was accessible to the resident's place of employment; and fourth, the house or neighborhood had a unique architectural character. Of all four characteristics uncovered the last one showed the most consistently high ratings. The economic variables related to price and the investment potential of the home and the employment accessibility appeared to be of approximately equal importance overall. Though some settlers varied the relative weight they assigned to each characteristic, most cited two or more characteristics as having an important influence on their residential choice.

- Increased Income Levels

The growth in service sector employment (coupled with real gains in income realized by many throughout the U.S. during the 60's), resulted in an increase in incomes for a large number of Boston households from 1960 to the present. The data in Table III-8 provide an illustration of the changing income levels of

Table III-8

DISTRIBUTION OF HOUSEHOLDS BY INCOME LEVEL IN THE CITY OF BOSTON
1960 AND 1970 ACTUAL, 1980 AND 1985 TARGETS
(Dollars of Constant Value at 1970 Prices)

Income Level	Number of Households				Percent Distribution			
	1960	1970	1980	1985	1960	1970	1980	1985
TOTAL	224,718	217,623	234,453	243,857	100.0	100.0	100.0	100.0
Under $1,000	12,732	13,267	11,084	8,517	5.7	6.1	4.7	3.5
1,000 - 1,999	14,786	12,962	11,211	8,447	6.6	5.9	4.8	3.5
2,000 - 2,999	16,827	16,214	11,295	8,670	7.2	7.4	4.8	3.5
3,000 - 3,999	16,279	14,300	9,263	7,086	7.2	6.6	4.0	2.9
4,000 - 4,999	18,512	14,777	9,944	10,791	8.2	6.8	4.2	4.4
5,000 - 5,999	21,105	14,412	10,261	10,826	9.4	6.6	4.4	4.4
6,000 - 6,999	23,730	15,509	10,496	11,075	10.6	7.1	4.5	4.5
7,000 - 7,999	20,789	14,818	11,113	10,766	9.3+	6.8	4.7	4.4
8,000 - 8,999	16,746	13,852	13,935	12,368	7.5+	6.4	5.9	5.1
9,000 - 9,999	14,243	13,200	14,508	15,342	6.3	6.1	6.2	6.3
10,000 - 14,999	30,617	43,427	64,594	73,142	13.6	20.0	27.6	30.0
15,000 - 24,999	14,998	25,561	48,042	55,557	6.7	11.7	20.5	22.8
25,000 - 49,999	3,022	4,747	7,557	9,920	1.3	2.2	3.2	4.1
50,000 - or more	332	567	1,150	1,349	0.1+	0.3	0.5	0.6
Median Household Income	$6,449	$7,439	$10,319	$11,233				
Mean Household Income	$7,705	$9,121	$11,582	$12,535				

Source: "Characteristics of Population: Families and Households, and their levels of income for the City of Boston", Boston Redevelopment Authority, 1974.

Boston households in constant 1970 dollars. In 1960, 8.1% of the households had incomes greater than $15,000. By 1970, this had increased to 14.2% and presently is estimated at 24.2%, representing a three-fold increase in 20 years. The increase in income levels has provided the necessary purchasing power to afford inner city living.

- Location

  In addition to the forces previously discussed, the location of the impact area within the city is ideal. In addition to having a close proximity to employment centers in Back Bay and the central area, there are numerous other amenities which appeal to the younger, increasingly more affluent and better educated population. Some of these are Symphony Hall, the Boston Museum of Fine Arts, the Fens and Fenway Park and Boston Common, the Newbury and Boylston Street shopping areas, and the close proximity to several hospitals. In addition, the area is serviced by both subway and bus routes.

In conclusion, this subsection has discussed those variables which we believe help explain the major forces behind the changes in the number and price of housing units in the impact area. We believe all of the forces discussed were collectively important and that both the supply and the demand pressures led to the changes in the housing market which have occurred in the impact area over the last 20 years. At present, the impact area is still in a state of transition, but is rapidly approaching a more mature state from the perspective of the physical condition and price of the units.

D. CURRENT HOUSING MARKET CONDITIONS IN THE IMPACT AREA

The data in Tables III-9 and III-10 summarize the current status of the housing stock within the impact area. As illustrated in Table III-9, the area has about 27,764 units, 9,112 of which are in the South End, 10,165 in the Back Bay, 7,656 in Fenway and 831 in Bay Village.

Table III-9

SELECTED CHARACTERISTICS OF THE HOUSING STOCK
IN THE IMPACT AREA

Neighborhood	Total # Units (1978)	Estimated # Subsidized Units (1978)	Estimated % of Units which are Rent Controlled[3]	% Units Per Building (1970)[4]		% Units Owner Occupied	
				5 - 49[8]	Greater Than 50	(1970)[4]	(1977)[5]
Fenway	7,656	1,146[1]	40 - 60%	67%	23%	2%	3%
Back Bay	10,165	0	20 - 40%	87%	5%	4%	22%
South End	9,112[6]	2,280[2]	10 - 20%	49%	6%	12%	26%[7]
Bay Village	831	0	10 - 15%	40%	8%	20%	N/A
	27,764	3,426					

/1 Boston Redevelopment Authority

/2 Based upon the HUD identified street address for projects cross-referenced with the City address listing for census tracts 703-709 only.

/3 Based on discussions with the BRA neighborhood planners and the Rent Control Board.

/4 U. S. Census.

/5 Hart Research Associates Survey in 1977.

/6 Includes census tracts 703-709. The total number of units in the South End is estimated to be 13,081.

/7 Consensus Inc. Survey in 1978.

/8 The percentages reflect the fact that rooming houses were counted as individual units in the census.

Source: As noted, and Economics Research Associates.

Table III-10

OWNER-RENTER AND SUBSIDIZED-NONSUBSIDIZED
PROFILE OF THE IMPACT AREA HOUSING STOCK: 1978/1979

	Fenway	Back Bay	South End (703-709 Only)	Bay Village
Total # Units	7,656	10,165	9,112	831
Percent Owner Occupied	3%/1	22%/1	26%/2	15-20%
Percent Renter Occupied	97%/1	78%/1	74%/2	80-85%
Total	100%	100%	100%	100%
Percent Subsidized	15%/3	--	25%/4	--
Percent Unsubsidized and occupied by middle to upper income households	39%/1	70%/1	35-45%/5	N/A
Percent Unsubsidized and occupied by low to moderate income households including students	46%	30%	30-40%	N/A
Total	100%	100%	100%	N/A

/1 Hart Research Associates, Inc. survey in 1977.
/2 Consensus, Inc. survey in 1978 for census tracts 703-709. The percent owner occupancy was lower for the rest of the South End.
/3 Boston Redevelopment Authority.
/4 Based upon the HUD identified street address for projects cross-referenced with the city address listing for census tracts 703-709 only. The percent of subsidized units to total units in the rest of the South End exceeds 50%.
/5 Based upon those respondents to the Consensus Survey with incomes above $15,000.

Source: As noted, and Economics Research Associates.

Overall it is estimated that 3,426 units (12%) are subsidized, the majority of which are located in the South End. On a city-wide basis, it is estimated that 18% of the units are subsidized, compared to 25% in census tracts 703-709 and 12% overall for the impact area. At present the Fenway appears to have the greatest number of rent controlled units with estimates ranging from 40 to 60%.

Referring to the data in Table III-9, it is evident that the physical condition of the housing stock is quite different within each neighborhood in the impact area. The South End and Bay Village have the greatest number of units in buildings with less than 5 units per building, which in part helps explain the greater number of owner occupied units in these two neighborhoods. The majority of the buildings in the Fenway and Back Bay have 5 to 49 units, and furthermore the Fenway has fully 23% of its units in buidings with more than 50 units.

The Back Bay has the highest median income of the neighborhoods within the impact area (as previously discussed) and this is explained largely by the high number of middle and upper income households (70%) in comparison to the other neighborhoods (see Table III-10). The Fenway has an estimated 39% of its units allocated to middle and upper income households, compared with 35-45% for the South End. Data for Bay Village was not available.

The Fenway has a large elderly and student population, many of whom are residing in the large apartment buildings. Excluding those in dormitories, the East Fens for Tomorrow Profile indicates that students comprise 41% of the population. To date many of the elderly have probably been able to remain in the Fenway because of rent control. Student turnover has allowed other units to be decontrolled. The data in Table III-11 highlights the difference in rents between rent controlled and non-rent controlled units in the East Fens in 1979. This survey, prepared by the East Fens for Tomorrow organization, indicates that the difference between rent levels for comparable units ranges from 15 to 40%. Generally, the percent difference is greater for units in excellent condition, reflecting the premiums being paid for rehabed housing.

Table III-11

MONTHLY RENTS FOR EAST FENS 1979[1]

Condition Rating of Building	ROOMING	STUDIO		ONE BEDROOM		TWO BEDROOM		THREE BEDROOM	
	Decontrolled	Controlled	Decontrolled	Controlled	Decontrolled	Controlled	Decontrolled	Controlled	Decontrolled
Excellent	-	$165-225	$250-325	$215-250	$270-370	$250-290	$400-600	-	-
Good/Fair	$120-165	118-165	150-190	152-200	180-265	165-240	280-340	$240-280[2]	$350-450
Poor	100	85-120	110-155	96-145	110-130	105-150	150-170	166-259	-

[1] Based on a sample of 59 buildings.

[2] Includes some 4 bedroom apartments.

Source: The Fenway Project Area Committee and the Boston-Fenway Program, Inc.

The South End (703-709 only) has the greatest amount of socioeconomic diversity within the impact area, as suggested by the data in Table III-10. While a large percentage of units are occupied by middle to upper income renters and owner-occupants, a large number of subsidized (25%) and low/moderate income non-subsidized (30-40%) also exist. The demand for subsidized units appears to be great based upon a survey of selected subsidized housing projects to identify their waiting lists (see Table III-12), however waiting lists are sometimes a misleading indicator of demand because they may be inconsistently maintained and updated. Reportedly operating difficulties have placed some of these projects into foreclosure. Section 8 subsidies have been granted to some 236 and 221(d)3 projects to help improve cash flow and to assure tenants pay no more than 25% of their income for housing. Pressures also exist on the non-subsidized low and moderate income housing stock. Increased operating costs such as taxes, insurance, fuel and maintenance, are enticing some low/moderate income owner occupants to sell or convert to rental, often at considerably higher rental rates. Low and moderate income renters, unable to meet the increased rents or to get into a subsidized project are being forced to leave the neighborhood.

The Back Bay is also experiencing a considerable amount of change and displacement as a result of condominium additions to the housing stock. Students and young professionals and/or clerical workers (who might share a unit) are increasingly being displaced because of the conversion of rental units to condominiums. The current sales price of these units often makes them too expensive even for the young professional. The data in Table III-13 illustrates the amount of condominium activity which has occurred in selected neighborhoods throughout the city since 1970. Existing and planned conversions for the impact area were assessed through July 1979 at 1,558, which represents 50% of the activity in the city. The Back Bay alone accounts for 46% of this activity.

The wide variety of forces which we have discussed have collectively increased the price of housing within the impact area to the point where it probably equals and in some cases exceeds the cost of suburban

Table III-12

NUMBER OF PERSONS ON WAITING LISTS AT SELECTED PUBLIC SECTOR HOUSING PROJECTS IN THE ENTIRE SOUTH END

Name of Project	Number Units	Number Habitable Units[1]	Number on Waiting List[2]	Number on Waiting List as a Percent of Total Number of Units
BHA Elderly and Turnkey:				
Cathedral Housing	508	388	345	68%
Lenox Street	306	282	591	193%
Camden Street	72	61	369	513%
Castle Square (Eva White)	102	96	25	25%
ETC Elderly	204	197	22	11%
1701 Washington (elderly)	78	65	13	17%
755 Tremont (elderly)	78	73	57	73%
155 Northampton (elderly)	78	71	11	14%
Rehabilitated BHA Subsidized Housing:				
50-102 W. Newton	136	125	738	543%

/1 As of January 1979, from Boston Housing Authority.
/2 From Boston Housing Authority and HUD.

Source: Economics Research Associates.

Table III-13

CONDOMINIUM ADDITIONS[/2] CITY OF BOSTON

Year Assessed	Total City	Back Bay	Beacon Hill	North End/ Waterfront	South End	Fenway/St. Botolph	Other
1969	8	8	0	0	0	0	0
1970	20	13	7	0	0	0	0
1971	210	155	40	0	24	0	0
1972	145	100	28	0	0	17	0
1973	483	165	25	100	0	0	193
1974	505	380	65	47	13	0	0
1975	236	176	44	16	0	0	0
1976	179	109	12	9	0	0	49
1977	163	67	32	24	0	0	40
1978	890	220	120	304	5	5	236
1979 (thru July)	273	58	41	49	39[/1]	4	83
TOTALS	3,122	1,451	414	549	81	26	601

/1 Twenty-five of these 39 units are upper income rental units being converted.

/2 From City Assessment records as of July 1979 and do not reflect those units either not assessed at the time or not on the market and not assessed.

Source: Boston Redevelopment Authority.

housing. Condominium units in Back Bay which sold in the $30,000 to $50,000 range in 1976 now sell for $75,000 to $115,000. The condominium market is just beginning to develop in the South End and prices range from $30,000 to $80,000 (see Table III-14).

Rental rates in general within the impact area are high, particularly in the Back Bay, South End and Bay Village where they range from $225 for a studio to $750 for a 2 bedroom unit (see Table III-15). Despite these relatively high rents, the capital gains prospects of converting a rental unit to condominium have been sufficient to increase the price of units (particularly in the Back Bay) to the point where the selling price cannot be justified given the prevailing rents. However, the generally improved rental market over the past few years has encouaged the construction of the first new non-subsidized rental housing project in the impact area in almost a decade. This project, Exeter Tower, has projected rents of $450 for a one bedroom and $600 for a two bedroom for an October 1, 1979 occupancy.

Despite the relatively high prevailing rents within the impact area, the rate of increase of these rents has barely kept up with the inflationary costs of maintaining and operating rental units, and the long term status of many units within the impact area as rental properties is questionable. The data in Table III-16 illustrates the average annual rate of increase in residential rents and shelter ownership from 1967 to 1978. This data, prepared by the U.S. Department of Labor for the City of Boston, indicates that the average rate of increase in rents was 6.2% from 1967 to 1978 while the average increase in the cost of real estate ownership increased 7.9% during the same time period. This general failure of rental rates to keep pace with rising costs is largely attributable to rent control, the impact of controlled rent levels in subsidized housing and a general difficulty in increasing rents in a market rate unit too rapidly without causing a higher turnover rate. The phenomenon is city-wide. The data in Table III-17 further underscore the same point, but from a different perspective: namely, the declining value of the dollar in the U.S.

Table III-14

ESTIMATED CURRENT SALES PRICE OF
CONDOMINIUMS IN IMPACT AREA

	1976	1979
Back Bay	$30,000-$50,000/1	$75,000-$115,000/1
South End	Limited Activity	$30,000-$80,000 /1
Fenway (includes St. Botolph Street)	Limited Activity	Market Just Developing

/1 Based upon one and two bedroom units respectively currently being rehabed.

Source: Economics Research Associates.

Table III-15

ESTIMATED AVERAGE MONTHLY
RENT LEVELS AND VACANCY/1
(September, 1979)

Neighborhood	Estimated Vacancy Rate	Studio	1 Bedroom	2 Bedroom	3 Bedroom
Fenway (Seven Streets)	5%	$175-185	$200-225	$275-300	$325-350
Back Bay	less than 1%	$275-325	$375-425	$400-750	$600+
South End/Bay Village (incl. St. Botolphs)	less than 3%	$225-250	$325-400	$375-600	$525+

/1 Based upon newspaper advertisements and discussions with property managers.

Source: Economics Research Associates

Table III-16

PRICE INDICES FOR RESIDENTIAL
RENT AND SHELTER FOR
THE BOSTON METROPOLITAN AREA

YEAR	RESIDENTIAL RENT	% RATE OF INCREASE	SHELTER/1	% RATE OF INCREASE
1967	100.0	-	100.0	-
1968	102.7	2.7%	105.1	5.1%
1969	108.8	5.9%	114.2	8.6%
1970	115.4	6.1%	124.5	9.0%
1971	122.7	6.3%	133.5	7.2%
1972	129.2	5.3%	141.9	6.3%
1973	136.2	5.4%	147.9	4.2%
1974	142.9	6.7%	156.7	5.9%
1975	149.6	4.7%	165.3	5.5%
1976	156.7	4.7%	171.3	3.6%
1977	166.2	6.0%	182.4	6.5%
1978	174.2	4.8%	195.3	7.1%
Average Annual Rate of Increase		6.2%		7.9%

/1 Includes the major costs of residential real estate ownership (mortgage payments, taxes and utilities).

Source: U.S. Department of Labor, Bureau of Labor Statistics.

Table III-17

PURCHASING POWER OF THE CONSUMER DOLLAR
(United States)

Year	Index	% Rate of Decrease
1960	1.127	
1961	1.116	.90%
1962	1.104	1.07%
1963	1.091	1.18%
1964	1.076	1.37%
1965	1.058	1.67%
1966	1.029	2.74%
1967	1.000	2.81%
1968	.960	4.00%
1969	.911	5.11%
1970	.860	5.59%
1971	.824	4.19%
1972	.799	3.03%
1973	.752	5.88%
1974	.678	9.84%
1975	.621	8.41%
1976	.587	5.47%
1977	.551	6.13%
1978	.512	7.08%
June, 1979	.462	10.82%
Average Annual Rate of Decrease 1960-1967		1.60%
1967-79		4.48%

Source: Handbook of Labor Statistics and Survey of Current Business, U. S. Department of Labor.

The rate of increase in apartment rental rates in the impact area since 1974 has exceeded that for the entire city, with the exception of the Fenway (see Table III-18). Average annual increases in the South End, Bay Village and on St. Botolph Street range from 6 to 13% per year, while increases in Back Bay and Fenway were generally lower. The average annual rental increase in the city since 1967 has been 6.2% (see Table III-16).

In summary, the housing stock within the impact area continues to be in a state of transition, but has been relatively more expensive and oriented towards younger, high income professionals. Unsubsidized low/moderate income rental units are being rehabed for middle/upper income luxury rentals or are being converted to condominiums. Also, units which had been rehabilitated within the past 10 years for rental units are increasingly being converted to condominiums, particularly within the Back Bay. The price of for-sale and rental housing within the impact area is higher than the city as a whole, but is comparable to units in the central area, the Waterfront and North End. Relatively little change has occurred to the overall supply of subsidized units within the impact area in the last few years, although many of the older units have experienced operating difficulties. Some of these units have been granted Section 8 subsidies.

Table III-18

AVERAGE ANNUAL
INCREASE IN APARTMENT RENTAL RATES
IN THE IMPACT NEIGHBORHOODS

(1974-1979)

	South End/Bay Village and St. Botolph	Back Bay	Fenway/1
Studio	6%	5%	6%
1 Bedroom	13%	7%	3%
2 Bedroom	11%	8%	4%
3 Bedroom	8%	14%	2%

/1 Rates of appreciation are for the Seven Streets neighborhood only and are based on rate increases between the years 1977 and 1979.

Source: Economics Research Associates

SECTION IV

BASELINE PROJECTIONS FOR THE HOUSING MARKET IN THE IMPACT AREA

This section will first present those variables which we believe will have the most impact upon the housing market within the impact area by 1985. Then we will discuss the "baseline" housing market conditions likely to exist assuming Copley Place is not constructed. These baseline conditions will provide the framework for assessing the incremental impact of Copley Place in Section IV.

A. FACTORS WHICH ARE MOST LIKELY TO IMPACT THE FUTURE HOUSING MARKET WITHIN THE IMPACT AREA

Just as our analysis of historical trends in Section III highlighted the complexity and interactive nature of the basic forces responsible for change in the impact area, the discussion in this section will underscore the same basic theme. We have developed a listing of 6 variables, several of which were suggested by participants at the September 20, 1979 Citizens Review Committee meeting. Each of these are discussed below:

- Continued Growth In Inner City Employment

  This factor, perhaps more than any other, will tend to reinforce the desire for inner city living because of the desire to live near one's place of employment and to minimize commuting expenses. The focus of public and private investment within the city in the next decade will have the effect of stimulating additional inner city employment. As the data in Table IV-1 indicate, the thrust of future investments will emphasize office development, housing, medical, educational and cultural activities, industrial development and transportation and public investments. The development of Copley Place is an example of one type of project within this category, and as such, will place additional demands upon the housing market in the impact area. The magnitude of this demand will be computed in Section V.

Table IV-1

INVESTMENT IN BOSTON PAST AND PROJECTED
(Millions of Dollars)

Sector	1968-1978	1979-1990
Office	$ 1,200	$ 600
Hotel	100	750
Housing	800	1,250
Retail	200	250
Medical	600	1,000
Educational	400	
Cultural	100	300
Industrial	100	500
Transportation	1,500	3,000
Public Improvements	800	2,000
Total	$ 5,800	$ 9,650

Source: Boston Redevelopment Authority, "A Decade of Development in Boston".

- National Economic Conditions

  National economic conditions, although difficult to forecast, have a major influence over the national and local housing markets. The availability and cost of mortgage money can influence the ability of an individual to purchase versus rent. Likewise, continued inflationary pressures (currently about 13.5% annually) will place pressures on property managers of both subsidized and non-subsidized projects to increase rents. But inflation also provides an incentive to purchase real estate, since it has been recognized as an excellent inflationary hedge. Despite the efforts of the federal government to reduce the rate of inflation, it is likely that the annual rate will remain in the 8-13% range over the next five years (barring a major recession). Assuming a reasonable availability of mortgage money (even at relatively high interest rates), it is likely that the inducements to buy real estate within the impact area will remain, but the pressures for rental property will also remain strong because the rapid increases in the cost of for-sale housing are precluding many from purchasing. For example, in 1970 the median price of a single-family house in the U.S. was $23,400. According to the U.S. Census Bureau, this price had increased to $64,000 in 1979. The median price of a single-family house in the Boston SMSA is undoubtedly even higher.

- Southwest Corridor Project

  This project will essentially result in the reconstruction of 4.7 miles of the Penn Central right-of-way so that the MBTA's Orange Line can be relocated. Within the impact area, the tracks will be completely depressed and covered over between Dartmouth Street and Massachusetts Avenue. This project, which is scheduled for completion in 1985, will have a major impact on the South End and the Fenway, particularly those blocks immediately adjacent to the tracks on the north side of Columbus

Avenue and the south side of St. Botolph Street. Not only will the noise from the trains be greatly diminished, but the covering over the tracks will be developed into an open space with access at designated points. The environmental improvement to the area will be very important to future real estate activity on properties adjacent to the tracks.

- Continuation and Completion of Urban Renewal Activities in the South End

  The South End is continuing to undergo a considerable amount of infrastructure improvement. Streets are currently torn up as major utility lines are rebuilt, then the streets are being repaved and landscaped. With the close-out of these projects in the South End and the completion of the construction activities, the physical environment of this neighborhood will continue to be enhanced. Also of importance in this regard is the city policy towards current vacant land parcels in the South End. Depending upon the timing and market orientation of the parcels, these developments could have an impact upon the rate of rehabilitation still occurring on selected blocks. Also, these units could increase the supply of housing within the South End by up to 5%.

- Reassessment

  The current rate of property tax assessment within each neighborhood in the impact area varies greatly. The South End and Fenway appear to be the most under-assessed neighborhoods relative to the Back Bay. On several properties of comparable value we noted that 3 to 5 story townhouses in the Back Bay had property taxes 6 to 10 times greater per unit than the South End. Reassessment in certain neighborhoods like the South End could impact both the low to moderate income person and the middle income renter. The low to moderate income home owner might be forced to either sell his unit or convert it to high

priced rentals. The owner of a large number of luxury rental units might decide to convert to condominiums when the impact of reassessment upon cash flow becomes apparent. Reassessment could potentially displace both middle income renters without the funds to purchase the unit as well as low and moderate income renters.

- Other Related Factors

  Numerous other variables will interact to affect the quality, price and type of housing available in the impact area in the next decade. For example, the willingness of existing low/moderate income owner occupants to sell their units in the future will in part determine the rate at which rehabilitation and displacement continues. Also, the future of the junior colleges and business schools, particularly in the Back Bay, will have an impact on the number of units potentially available for rehabilitation and/or conversion. Another important factor will be the continued desire of the 25 to 44 year old age group to live within the impact area as well as the rest of the city. This in part will depend upon their willingness to send their children to public schools or their ability to send their children to private schools. However the rapidly increasing cost of housing coupled with the cost of private schools may diminish the appeal of the area.

B. LIKELY BASELINE HOUSING MARKET CONDITIONS: 1980-1990

The above factors will impact not only the quantity of housing available within the area, but also the price and the type of people who will occupy these units. These forces, and their potential impact upon quantity and price, are summarized below:

- Quantity of housing units will most likely be impacted by:
  - the cities vacant land policy
  - availability of mortgage funds for new construction and/or rehab

- reassessment
- future of junior colleges
- federal or state programs to encourage more new construction
- status of subsidized units currently in default

- Price of units will most likely be impacted by:
  - the above factors
  - inflation
  - rent control
  - continued growth in inner city employment and hence, demand
  - completion of the Southwest Corridor project
  - completion of urban renewal activities
  - continued interest in inner city living by the 25 to 44 year old age group
  - potential of real estate versus other investments

Baseline conditions in 1985 can be estimated by two basic methods; one, by developing a reasonable scenario of the future based upon past trends and current market conditions and, two, by varying each of the above factors to highlight possible extremes in market activity. For example, a long term shortage of gasoline coupled with an aggressive state or federal program to increase the supply of housing in the inner city could significantly impact the supply (but not necessarily the price) of housing in the impact area.

Our approach to developing the likely baseline conditions was the first one outlined above, largely because it represented the most reasonable, conservative and readily understandable statement about future market conditions. This approach also allowed us to utilize our judgment and experience based upon our knowledge of Boston and other U.S. cities. The sensitivity discussion in Section V will address the likely ramifications of events occuring which may not have been fully considered in developing the baseline projections.

One of the major forces behind the amount of rehabilitation, upgrading and displacement in the impact area is the attractiveness of the area for white collar young professionals as previously discussed.

The data below highlight (on a percentage basis) the number of professional, business, managerial and white collar workers who lived within each neighborhood in the impact area in 1970 and 1977/1978. Both the South End and Back Bay have experienced a 2 to 3 fold increase in this type of resident, while the Fenway has been relatively unaffected.

	1970/1	1977/78
Fenway	32%	39%/2
Back Bay	30%	70%/2
South End	19%	35-40%/3
Bay Village	21%	N/A

/1 U.S. Census
/2 Hart Associates Survey
/3 Consensus Inc. Survey of the South End Urban Renewal Close-out for census tracts 703-709.

The above data highlights a very important point about the housing market within the impact area which is that the displacement of people and rehabilitation of units has proceeded quite rapidly, particularly in the Back Bay, and to a lesser extent in the South End. Certain areas within the Fenway (such as St. Botolph Street) have also undergone extensive renovation, although the area continues to house a large number of students and the elderly both of whom could potentially be displaced in the future.

The data in Tables IV-2 and IV-3 provide a summary of the basic trends we believe are likely to occur within the impact area over the next 5-10 years. Areas where one or two developers control a large number of units could be converted into condominiums as a package. Because a large number of individuals and developers appear to own much of the property in the impact area however, it is not likely that a massive amount of mergers would occur for the sole purpose of making properties more marketable for condominiums.

Table IV-2

SUMMARY OF LIKELY BASELINE IMPACT AREA TRENDS:
1980-1990

	Housing Stock by Rental/Ownership Categories				
	Middle/Upper Income Units		Low/Moderate Income Units		
Impact Area Neighborhood	Rental	Owner Occupied Units Including Condominiums	Subsidized Rental	Non-Subsidized Rental	Owner Occupied
Fenway	Market will continue to develop, rents continue to increase	Few at present, market may develop for lower priced units	Likely to remain same	Increasing pressure to upgrade units for rental or condos with rate of displacement increasing	Few exist
Back Bay	Available units may decline, prices continue to increase with low vacancy rates. Condo conversions may place pressure on rental housing prices	Market will remain strong, and possibly slow down because of high prices. Percent of units owner-occupied will increase	None	Virtually all available units will be rehabbed as luxury rental or condo	Few exist
South End	Will remain strong with prices continuing to increase. Condo conversions may place pressure on rental housing prices.	Market likely to develop, but units not as suited to massive condo activity. Owner-occupancy will increase modestly.	Possibly more tenant control of projects, more section 8 subsidies on 236 and 221(d)3 projects	Rehabilitation of units to middle/upper income units likely to continue, and displacement will continue	Pressure to sell because of likely reassessment and large capital gains possibilities
Bay Village	Will remain strong with prices continuing to increase	Market likely to develop, but units not as suited to massive condo activity Owner-occupancy will increase modestly	None	Rehabilitation of units to middle/upper income units likely to continue	Few exist

Table IV-3

BASELINE PROFILE OF HOUSING STOCK
BY OWNER-RENTAL AND SUBSIDIZED - NONSUBSIDIZED CATEGORIES:
1978-1990

	Fenway		Back Bay		South End		Bay Village	
	1978/79	1985/90	1978/79	1985/90	1978/79	1985/90	1978/79	1985/90
Total # Units	7,656	7,656/1	10,165	10,165/1	9,112	9,612/2	831	831+
Percent Owner Occupied	3%	10%/3	22%	40-50%/3	26%	30-40%/3	15-20%	20-30%/3
Percent Renter Occupied	97%	90%	78%	50-60%	74%	60-70%	80-85%	70-80%
Total	100%	100%	100%	100%	100%	100%	100%	100%
Percent Subsidized	15%	15%	---	---	25%	25%	---	---
Percent Unsubsidized and occupied by middle to upper income households	39%	50-60%	70%	90-100%	35-45%	55-65%	N/A	N/A
Percent Unsubsidized and occupied by low to middle income households and retired people	46%	25-35%	30%	0-10%	30-40%	10-20%	N/A	N/A
Total	100%	100%	100%	100%	100%	100%	100%	100%

/1 Supply largely depends on future of junior colleges and/or the development of a state or federal program to construct more middle income rental housing.
/2 Exact amount depends on the city owned vacant land policy.
/3 Reflects the current rate of condominium converstion within the neighborhood.

Source: Economics Research Associates.

Our basic conclusions regarding the relevance of those factors discussed previously is that inflationary pressures will continue, putting continual pressure on the landlord and the prospective renter and/or purchaser of housing. The demand for inner city housing (including the impact area) will continue to be strong, fueled largely by the continued creation of inner city jobs and the increasing attractiveness of the inner city as a place to live. On a neighborhood basis, we believe that condominium activity will remain strong in Back Bay and that by the 1985/1990 period, fully 90-100% of the area will be occupied by middle to upper income residents, 40-50% of whom will be owner occupants. In other words, the process of upgrading low and moderate income units within this neighborhood will largely be complete (see Table IV-3) by the time Copley Place is constructed.

Within the portion of the South End in the impact area (census tracts 703-709), we believe the rate of rehabilitation and upgrading will continue, but at a somewhat slower pace than Back Bay for several reasons. For one, the South End no longer represents the excellent investment opportunity it once did and the costs of acquiring a unit for rehabilitation are considerably higher than 5-10 years ago. Secondly, the trend towards condominium conversion in the Back Bay is probably satisfying some of the demand for ownership which may have been directed towards the South End several years ago. However, we also believe some form of revaluation is inevitable over the next 5-10 years, and this factor, coupled with the generally increasing costs of owning real estate, will encourage some of the remaining low and moderate income owner occupants to sell their properties, resulting in an increase in rents. By 1985/1990 we believe the portion of the South End within the impact area will be roughly 55-65% occupied by middle to upper income households, up from 35-45% at present. The percent of subsidized units within this area are expected to remain relatively constant, although modest changes might occur if the Tent City project is constructed and various subsidized units which are currently uninhabitable are renovated.

The Fenway is expected to undergo a considerable amount of pressure to its housing stock over the next decade. This is basically because demand which cannot be satisfied within the Back Bay or the South End will likely flow into the Fenway. Not only are prevailing property values lower, but many projects occupied by students and the elderly are reportedly experiencing operating losses based upon our discussions with several property managers. The opportunity to realize rental rates which are 15-40% higher than those on controlled units is likely to encourage an accelerated rate of rehabilitation within the Fenway. To the extent this materializes, some displacement of the elderly and students can be expected, much like what occurred in the Back Bay over the last 10 years.

In summary, we believe the market forces within the local and national economy are such that trends which have occurred within the impact area over the last decade will continue, although at a somewhat slower rate. This is because many of the blocks within the impact area will largely have been rehabilitated by 1985/1990, hence the stock of available undervalued units will be greatly diminished, and, secondly, the increased price of housing within the area will make the feasibility of future projects somewhat more difficult. However, with the continued inflationary pressures, rising transportation costs and tax advantages of real estate ownership, the impact area will continue to be a sought after location for people desiring an inner city residence. The numerous pressures on the costs of owning rental and owner-occupied property coupled with the strong demand element for both rental and condominium units are likely to continue. The likely result is that the overall area will become an increasingly more middle and upper income area, comprised largely of young professionals, middle-aged couples without children, and the so-called "empty-nesters," whose children have left home. We do not anticipate any major changes to the supply of available units, largely because the economics of constructing rental projects are often difficult to justify, but also because of a general lack of available land within the impact area for a significant number of new projects.

SECTION V

IMPACT ANALYSIS

A. AN OVERVIEW OF THE PROJECT

Copley Place is a proposed mixed use development which would be built on air-rights over the Massachusetts Turnpike. Located in the Back Bay section of Boston, the project would serve to bridge two somewhat physically separated neighborhoods, namely the South End and Back Bay. The proposed project, which is to be built near the intersection of Dartmouth and Huntington Avenues, would have a combination of residential, commercial, office and hotel uses. The basic composition of the project is as follows:

	Program A	Program B
2 Hotels	1,672 rooms	1,672 rooms
Retail	358,570 GLA	178,100 GLA
Office	640,970 GLA	836,000 GLA
Housing	100 Units	100 Units
Parking	1,536 Spaces	1,536 Spaces

GLA = Gross Leasable Area

Construction of the project is expected to commence in 1980 and is projected by the developers (Urban Investment and Development Corporation) to be completed by 1983 and fully rented-up by 1986.

The developers estimate that the project will cost $300 million (in 1979 dollars) to construct and will employ several thousand construction workers. We do not believe the actual construction work force will demand housing within the impact area because of the relatively short term nature of the work and the assumption that the work will be done by local contractors. The construction activity itself may adversely impact residential areas adjacent to the project depending on how truck traffic is routed and where the construction workers will park their cars.

B. CALCULATION OF DEMAND

The proposed project, by virtue of its size and scale, will be attracting tourists, businessmen, shoppers and new residents into the impact area, some of whom are being attracted specifically because of the project. As such, they will collectively place additional pressures upon the housing stock in the impact area. The basic issue which we are to address revolves around not only the magnitude of this demand, but the timing, composition and the status of the supply to respond to this demand (e.g., the baseline conditions). For purposes of this analysis it is necessary to define two basic housing demand elements which will likely emanate from the proposed project. These categories are as follows:

- Direct demand - that component of the total Copley Place work force (professional and non-professional) who will ultimately live in the impact area. Some in this group will already reside in the impact area prior to accepting employment in Copley Place, others will move from elsewhere in the city to the impact area simply to be closer to their place of employment, while some will relocate from outside the city.

- Induced demand - that demand element generated by the excitement or anticipation of a project, or other public expenditures, such as the urban renewal project in the South End or the Prudential Center on the entire inner city area. This type of demand is most readily realized when excellent speculative opportunities are also present.

To calculate the direct demand element, we first prepared an estimate of the likely Copley Place workforce for Program A and B. The average annual workforce for each program was estimated at 6,286 and 6,684, respectively. It is not likely that these levels of employment would be attained immediately, but more likely over a 1 to 3 year period. The timing is largely dependent upon the development schedule, for example,

whether both hotels are constructed simultaneously and the length of time required to lease-up the retail and office uses. The data in Table V-1 summarize the estimated workforce at full occupancy.

The data in Table V-2 provide an expanded profile of the workforce shown in Table V-1, to provide a likely occupational profile of the Copley Place workforce. For Program A, we estimate that 31% of the workforce would be professional, technical or managerial, 34% would be clerical, and 21% laborers and service workers. Program B is similar in that 34% of the workforce would be professional, technical or managerial, 37% would be clerical and 22% would be laborers and service workers.

The data in Tables V-3 and V-4 provide estimates of the salary levels of the Copley Place workforce in 1979 dollars. Essentially the office workers (including professional, technical, managerial and clerical) would have the highest average annual income, with parking and maintenance personnel the lowest. Our average income estimates (in 1979 dollars) for the office, retail, hotel and parking and maintenance personnel are $18,600, $12,800, $11,100 and $10,300, respectively.

The above discussion highlights two basic items, one, the size of the Copley Place workforce is relatively large (6,300-6,700 people) and two, the majority of the workforce are non-professional (clerical, retail, service and laborers), with relatively low incomes for the impact area but not for the city as a whole. Referring back to Table III-8, the average household income for 1980 in the City is estimated to be $11,582, which is similar to that expected by the retail, hotel and clerical workers. Average income is an important indicator for this study, because it essentially defines the purchasing power of the employee for housing as well as other goods. As will be discussed more fully later in this section, the prevailing rents within the impact area are quite high relative to the expected income levels of the average Copley Place employee.

Before addressing the affordability question, we will define the likely size of the direct demand element generated as a result of Copley Place. Our basis for estimating the possible magnitude of this de-

Table V-1

ESTIMATED NUMBER OF COPLEY PLACE WORKERS

Type of Activity	Basis for Calculation /1	Program A (with specialty dept.store)	Program B (without specialty dept.store)
Hotel	1 per room for convention hotel; 1.2 per room for luxury hotel	1,814	1,814
Office	208 square feet of building area per employee	3,205	4,180
Retail	326 gross leasable square feet per employee	1,147	570
Parking and Maintenance	Economics Research Associates estimate	120	120
	Total	6,286	6,684

/1 Urban Investment and Development Corporation

Source: As noted, and Economics Research Associates.

Table V-2

PROJECTED OCCUPATIONAL DISTRIBUTION OF
COPLEY PLACE WORKERS

Position	Hotel/1		Office/2		Retail/3		Parking & Maintenance/1		Total	
	A	B	A	B	A	B	A	B	A	B
Professional and Technical	177	177	888	1,133	54	27	-	-	1,119	1,337
Managerial	242	242	498	636	98	48	4	3	842	929
Clerical and Secretarial	239	239	1,611	2,078	271	132	7	7	2,131	2,453
Sales	-	-	150	196	221	111	-	-	371	307
Craftsmen and Foremen	-	-	24	30	43	22	8	8	75	60
Operatives	-	-	17	17	21	10	-	-	38	27
Laborers and Service	1,086	1,086	169	208	170	74	109	109	1,534	1,477
Other	-	-	4	5	172	89	-	-	176	94
TOTAL	1,744	1,744	3,361	4,303	1,050	513	128	127	6,286	6,684

/1 Based on occupational distributions at Water Tower Place.

/2 Based on occupational distribution of 67 office using firms at the Prudential Center.

/3 Based on occupational distribution at retail shops in the Prudential Plaza.

Source: As noted, and Economics Research Associates.

Table V-3

PROJECTED SALARY LEVELS OF
COPLEY PLACE EMPLOYEES
(1979 Dollars)

	Number of Employees Per Wage Level					
	Less Than $8,000	8,000-9,000	10,000-13,999	14,000-19,999	20,000-29,999	Above 30,000
Office: /1						
Program A	158	605	790	729	615	467
Program B	215	823	1,074	992	836	359
Retail: /2						
Program A	127	268	396	155	67	37
Program B	62	131	193	76	33	18
Hotel: /3						
Both Programs	811	413	140	215	110	55
Parking and Maintenance /3						
Both Programs	33	48	34	9	2	2
Totals:						
Program A	1,129	1,334	1,360	1,108	794	558
Program B	1,121	1,415	1,441	1,292	981	438
Percent Composition						
Program A	18.0%	21.2%	21.7%	17.7%	12.6%	8.9%
Program B	16.7%	21.2%	21.6%	19.3%	14.7%	6.5%

/1 Based on worker's wage levels at the Prudential Tower.
/2 Based on worker's wage levels at the Prudential Plaza.
/3 Based on workers at Water Tower Place.

Source: As noted, and Economics Research Associates.

Table V-4

COPLEY PLACE
AVERAGE EMPLOYEE INCOME
(1979 Dollars)

	Number Employees	Average Income/1
Office:		
Program A	3,205	$18,600
Program B	4,180	
Retail:		
Program A	1,147	$12,800
Program B	570	
Hotel:		
Both Programs	1,814	$11,100
Parking and Maintenance:		
Both Programs	120	$10,300

/1 Based upon weighted averages from data in Table IV-3.

Source: Economics Research Associates.

mand was to survey existing office buildings in the Back Bay and to review similar studies done by the BRA for Government Center and the Prudential Center. Our findings from these surveys are summarized below:

- John Hancock Life Insurance Company - based upon 5,700 home office employees, 31% live in the City of Boston.

- Christian Science Center - based upon 1,400 employees, approximately one-third live within walking distance, ride bikes or use local buses. It is estimated that 25% of these living locally are professional/management workers who live in luxury high rises such as the Prudential Apartments or Church Park. The remaining 75% are younger, generally unmarried, live in walk-up apartments and typically have roommates.

- Sheraton Hotel - management estimates that 40-60% of the employees live in the city, many of whom walk to work or take local transportation. More non-professional employees lived in the city than professional employees.

- Prudential Tower and Prudential Plaza - the BRA study of these facilities in 1970 indicated that 29% of the Prudential Tower employees (primarily service industry) lived within walking distance of their office. For Prudential Plaza, 41% of the employees lived within walking distance.

From these studies and surveys the following generalizations can be drawn. One, those firms with the largest number of low-skilled employees (retail and hotel) tended to have the greatest number of people living in Boston and secondly, the younger people had the greater tendency to live in the city, particularly the young professionals and clerical workers, many of whom share apartments so they can afford to live closer to work. Also, it was generally felt by the firms we surveyed that families with children tended to live outside the city where

crime was considered to be less of a problem and also the educational system was thought to be better.

Based upon the findings from the above surveys, we estimated the long term locational preferences of Copley Place employees. Overall, we estimate that 23% of the professional, managerial and technical workers will ultimately live in the impact area, and most of the remainder will live outside the city. For the non-professional workforce, we estimate that 17% will live in the impact area, 29% in the rest of the city and 54% outside of the city. These estimates are summarized below:

	Impact Area	Rest of City	Elsewhere	Total
Professional	23%	5%	72%	100%
Non-Professional	17%	29%	54%	100%
TOTAL/A	19%	21%	60%	100%

/A Based upon weighted averages.

As the above percentages indicate, we expect a higher percentage of the professional workforce to live within the impact area than the non-professional because of the following:

- The unique geography of Boston whereby a person could live in Brookline or Cambridge and be closer to Copley Place than if they lived on the waterfront, thereby enabling them to take advantage of rent differentials.

- The current rent differentials between the impact area and the rest of Boston. Even though younger people often double up in apartments, rents in Allston-Brighton or Roxbury can be 50% lower than in the impact area. Since the average non-professional worker is expected to earn between $10,000 to $12,000 per year, rent levels will be important determinants to location.

- The accessibility of the site to the MBTA and various bus routes will make commuting relatively easy.

- The high probability that 71-78% of the housing stock in the impact area will be affordable only by middle to upper income households by 1985 (derived from Table IV-3). The proportion of supply available to low and moderate income households within the impact area will be disproportionately small relative to the large number of workers who could potentially qualify for this type of housing.

When the above percentages are applied to the estimated number of Copley Place workers under each program, the following estimates of potential direct demand are derived for the project:

	Program A	Program B
Professional	450	520
Non-Professional	730	750
	1,180	1,270

The above figures represent total potential direct demand for housing within the impact area based upon the experience of other large mixed use projects in Boston and our judgments regarding likely market conditions at the time the project is completed and rented-up. These demand estimates are termed potential because they do not necessarily reflect the amount of new households (assuming one worker in Copley Place represents one household) that will move into the area. In fact, some workers will already reside in the area. Reportedly, the Turnpike Authority will require the developer to establish the goals of hiring a minimum of 17.2% of the workforce from the impact area, and 50% from the city. If this percentage is applied to the above demand estimates, the following revised estimates for total direct demand are derived:

	Program A	Program B
Professional	370	430
Non-Professional	610	620
	980	1,050

To the extent that more than 17.2% of the workforce is obtained from existing impact area residents, the Copley Place demand element may be further reduced.

To assess the impact which this demand element might have upon the impact area, one must understand the relationship of this demand element to total demand within the impact area, and, secondly, develop a reasonable hypothesis regarding the timing of the demand. For example, it is highly unlikely that all the demand would be realized within 1 year. Rather, we believe the impact would be realized over a 5 year period because:

- o People will wait to see if they like the new job before moving. The shortage of vacant units will further encourage them to be sure before moving.

- o The development is currently projected to take 2 to 3 years before reaching full occupancy, and in effect stability.

The data in Table V-5 provide a summary of the total housing demand expected to occur within the impact area without Copley Place from 1976-1985. In total, the increase in households are projected to range from 3,000-4,200 over the period (derived from Table V-6), and the turnover of existing units will range from 7,000-10,000 households during the nine year period. Replacement demand is the smallest component and is estimated at 500 units. These categories of demand in total represent 10,500 to 14,500 households and in essence represent the major housing market forces from a demand perspective. The total direct demand for Copley Place is estimated to range from 980 to 1,050 for Programs A and B and as such represents 6 to 9% of the total demand. The average annual demand for Copley Place is expected to be 200 to 210 units per year for 5 years, which is 11-15% of the average annual total demand.

Table V-5

PROJECTED ELEMENTS OF HOUSING MARKET DEMAND WITHIN THE IMPACT AREA: 1976-1985
(without Copley Place)

Category	Total 1976-1985	Average Annual
Increase in Households (from Table IV-6)	3,000- 4,000	330-440
Turnover of Existing Units/Households /1	7,000-10,000	770-1,110
Replacement Demand /2	500	50
Total	10,500-14,500	1,200-1,600

/1 Based upon discussions with property managers, 25 to 35% turnover per year of the housing stock was assumed.

/2 Based upon 2% of the housing stock.

Source: As noted, and Economics Research Associates.

Table V-6

PROJECTED INCREASE IN HOUSEHOLDS
WITHIN THE IMPACT AREA: 1970-1985
(without Copley Place)

	1970	1976	1985
Population	48,534	52,587	55,600
Number of Households	24,636	27,824	30,800-32,000
Population/ Household	2.0	1.9	1.8 - 1.9
Change in number of households (rounded)	3,200	3,000-4,200	
Average Annual change (rounded)	500	300-400	

Source: U.S. Census 1960 and 1970, State Census for 1975 and Metropolitan Area Planning Council estimates for 1976, Boston Redevelopment Authority Population Projections for the City in 1985, and Economics Research Associates.

On an annual basis, Copley Place generated demand represents a slightly larger proportion of the baseline demand because the demand is expected to be concentrated into a 5 year period. This point is illustrated by the data below:

	Total Demand	Average Annual
Baseline Demand (1976-1985)	10,500-14,500	1,200-1,600
Copley Direct Demand (1984-1989)	980-1,050	200-210
Total Demand	11,480-15,550	1,400-1,810
Copley Demand as a % of Total Demand	6-9%	11-15%

In summary, we believe that the incremental increase in demand for housing within the impact area on an annual basis will be modest, as reflected by the relationship of Copley Place demand to total demand. These estimates were based upon assumptions which were developed through discussions with area realtors, a careful review of previous studies, our own surveys of office workers and our conclusions regarding the likely baseline conditions in the impact area in the mid-1980's. To the extent that any of our key assumptions are high or low, the magnitude of the Copley Place demand would vary accordingly. For example, we may have underestimated the rate of turnover likely to occur within the impact area. To the extent that this is higher, the baseline demand would be higher and the relative significance of the Copley Place demand would be reduced. Likewise, if the Copley Place demand is realized within 2 or 3 years rather than 5, the relative impact would be increased. However, an increase in the supply of new units might absorb some of this increment. Essentially the key variables which would impact the sensitivity of this analysis are the timing of the construction and occupancy of the project, the magnitude of turnover within the impact area, the assumptions regarding the desire of professionals and non-professionals to live in the impact area, and the time frame over which they choose to relocate.

C. INDUCED DEMAND

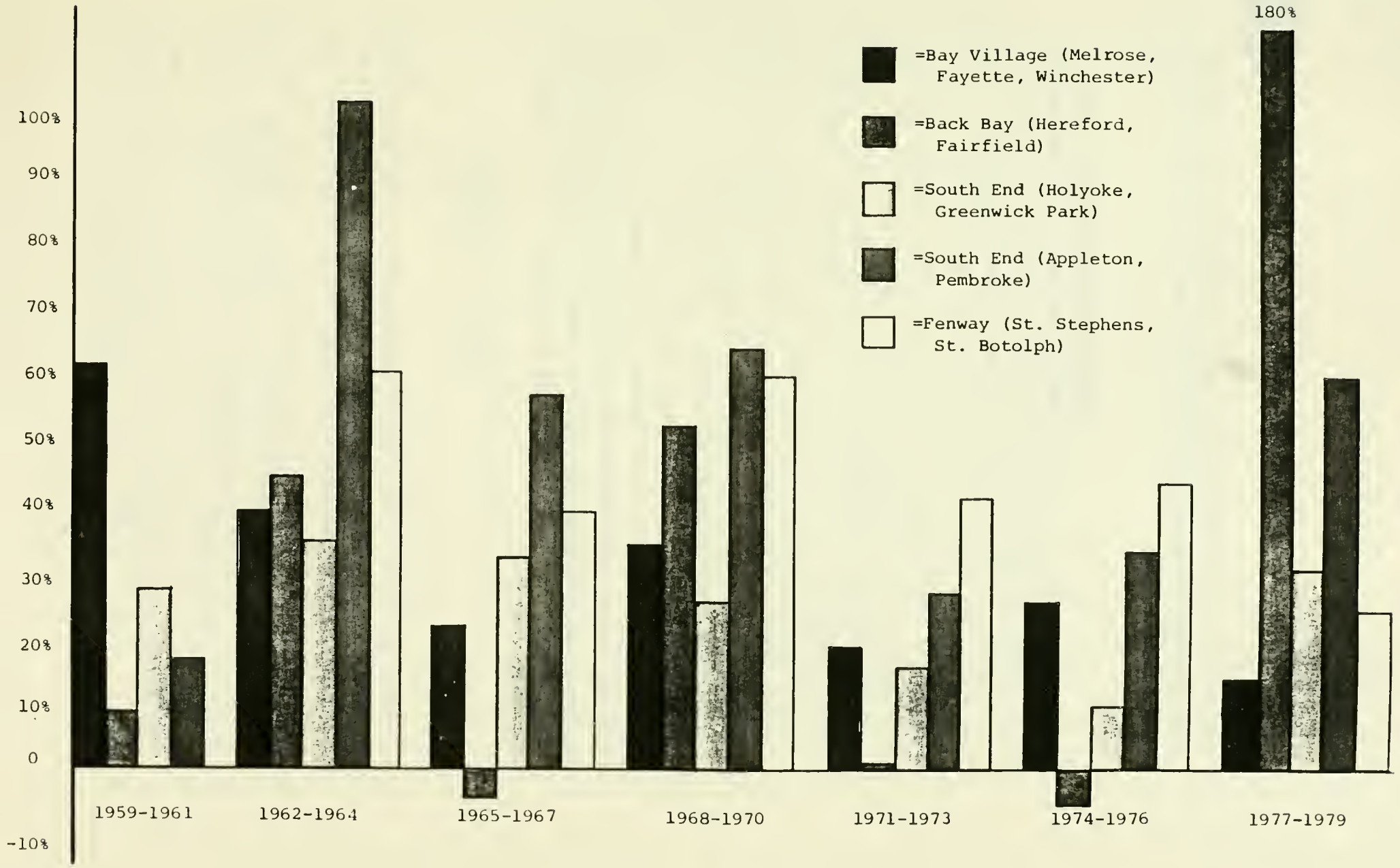
Induced demand, as previously defined, occurs most frequently when a project is undertaken which is dramatically in contrast with the real estate profile and trends within the area. For example, the Prudential Center had an induced impact upon property values in the South End as is evident from a review of Figure V-1. This bar chart, which shows relative increases in property values on selected streets within the impact area, indicates a 110% increase in property values on Appleton and Pembroke Streets in the South End during the 1962-1965 period when the Prudential Center was being started and urban renewal in the South End was being discussed. This momentum continued, although at a slower pace, from 1965-1971 and then slowed considerably during the early 1970's, despite the construction of the John Hancock Building, reflecting in part the recession which occurred at that time. The large jump in real estate prices from 1977-1979 in the Back Bay is largely reflective of the increased value of rental housing as for-sale condominiums.

This same type of phenomenon was experienced in other old industrial cities during the 1960's and early 1970's. Charles Center in Baltimore, coupled with an ambitious urban renewal program, triggered a renewed interest in inner city living. Likewise, the IDS tower in Minneapolis-St. Paul spearheaded a redevelopment effort in the twin cities. The recently constructed Renaissance Center in Detroit is also expected to contribute to a renewed interest in the inner city, initially by retaining jobs which might otherwise be lost to the suburbs.

The projects described and the Prudential Center each had an induced impact upon their respective cities (coupled with urban renewal), largely because of the speculative opportunity which residential areas adjacent to these projects represented at the time. The current and projected housing market conditions within the impact area are no longer speculative. The housing stock in the impact area is being continually upgraded as conventional market rate housing, and as such is increasingly affordable by primarily middle and upper income households. Therefore we do not believe that Copley Place per se will have any material induced impact upon the housing stock within the impact area, primarily because the area is less vulnerable. In fact, the

Figure V-I

PERCENTAGE INCREASES IN PROPERTY VALUES ON
SELECTED BLOCKS WITHIN THE IMPACT AREA
1959 - 1979



relatively slower increases in real estate prices from 1971-1977 (see Figure V-1) compared to the 1962-1970 period somewhat underscore this point.

D. IMPACT ON RENTS AND PROPERTY VALUES

We believe that rents and property values within the impact area will continue to increase throughout the next decade at a rate at least equal to and possibly greater than that within the city. Numerous forces will determine the exact amount of this increase, particularly on an annual basis. Some of these forces include the health of the national and regional economy, the rate of inflation, the availability of mortgage funds, reassessment, etc. For purposes of this analysis, we are assuming that rents within the impact area will increase an average of 5-10% per year for the next decade, and that property values will generally increase from 10-15% per year. This average annual rate of increase was generally experienced on the 11 streets within the impact area which we studied. To illustrate the relatively modest impact which we believe Copley Place will have upon rents and property values within the impact area, we have assumed the following proportionate relationship theoretically exists and have solved for X, which represents the percent of the 5-10% annual rent increase within the area which is attributable to the Copley Place demand element:

$$\frac{1,200\text{-}1,600}{200\text{-}210} = \frac{5\text{-}10\%}{X}$$

Stated another way, if the average annual baseline demand of 1,200-1,600 households will be largely responsible for an average annual rental increase of 5-10%, a portion of this increment is theoretically attributable to Copley Place, assuming a low vacancy rate continues to exist in the housing market. In solving for X above, the Copley Place direct demand element would be responsible for .06 to 1.4% of the 5-10% increase. Translated onto a dollar basis, for a $10 per month rent increase, $.60 to $1.40 could potentially be attributed to Copley Place. The same logic could be applied to for-sale units, and we believe the overall impact would also be modest.

In summary, we believe the impact of Copley Place upon residential rents and property values within the impact area will be modest, largely because the demand element represented by the Copley Place workforce is likely to be a relatively small (10-15%) percentage of the total demand, and because the income levels of the average Copley Place worker will be low relative to rent levels in the area.

The data below illustrate the relationship between annual incomes (in 1979 dollars) of the typical office, retail, hotel and parking employee at the project (from Table V-4) and their likely monthly outlays for housing:

Category of Worker	Yearly Income	Monthly Income	Likely Housing Outlays per Month
Office	$18,600	$1,550	$387
Retail	$12,800	$1,066	$267
Hotel	$11,100	$ 925	$231
Parking	$10,300	$ 858	$214

The likely housing outlay per month was computed on the basis of 25% of the average monthly income, which is an established long term relationship for Americans. Comparing the likely monthly outlays with those of rent and for-sale levels within the impact area at present suggests that many of these people will have to live outside the impact area. However, there are several factors which will be important determinants in their ability to live within the area, namely:

- Their desire to live with one or more roommates.
- The combined incomes of a husband and wife.
- Their willingness to live in smaller units or units of lesser quality.

- The ability of their real gains in income between 1979 and 1985/90 to keep pace with the increased cost of construction, rehabing and operating housing units.

Current trends would suggest that the gains in income of many of the Copley Place workers will not keep pace with the rising costs of real estate ownership, hence their ability to acquire either rental or for-sale housing within the impact area will be further eroded. This situation is becoming increasingly more evident throughout the nation and not just in the City of Boston or the impact area.

E. AREAS WHICH COULD RECEIVE A DISPROPORTIONATELY LARGE SHARE OF THE IMPACT

Although the overall impact upon rents and property values is likely to be minimal, there is at least one pocket within the impact area which is likely to be significantly affected by a combination of factors including Copley Place, completion of the Southwest Corridor Project and the completion of urban renewal activities in the South End. This area within the South End goes from Dartmouth Street to Massachusetts Avenue north of Columbus Avenue.

We also believe that the residential area along Hemenway Street and some of the side streets will experience pressure which will result in the displacement of some students and elderly. Likewise, some units which are currently boarded up are likely to be returned to the active housing stock. Copley Place alone will not be responsible for these pressures. Rather, a series of forces including the rapid maturation of the housing stock in Back Bay and the South End will likely contribute to an increased interest in the Fenway over the next decade.

Finally, we believe there are areas outside of the impact area which will experience increased pressure on their housing stock, again not just because of Copley Place, but also because the majority of the jobs generated in the inner city during the next decade are likely to be clerical, retail or sevice related jobs which are relatively low paying. With increased inflationary pressures and the rising costs of transportation, we believe much of the future housing demand will be realized along established MBTA lines.

APPENDIX

SELECTED BIBLIOGRAPHY

Boston Redevelopment Authority Studies:

The Prudential Towers and Charles River Park Apartments: The Effect of High Rise on Boston's Population. July, 1970.

Residential Property Market Values in Boston. 1973.

Boston's Office Market--A Brief Look at Construction and Vacancy Levels. August, 1978.

Publicly Subsidized Housing Developments in Boston. June, 1975.

The Past, Current, and Expected Future Growth in Population and Housing for the City of Boston and the Boston Metropolitan Area, Through the Year 2000. June, 1979.

South End--District Profile and Proposed 1979-1981 Neighborhood Improvement Program. Winter 1978-1979.

Fenway-Kenmore--District Profile and Proposed 1979-1981 Neighborhood Improvement Program. Winter 1979.

Back Bay-Beacon Hill-Bay Village--District Profile and Proposed 1979-1981 Neighborhood Improvement Program. 1979.

A Site Specific List of Investment Projects Public and Private by Neighborhood, Completed 1968-1978. June, 1979.

A Decade of Development in Boston--Projects Completed. 1968-1978.

Population Projections by Five Year Age Groups for the City of Boston in 1985: A Background for Discussing Stability, Growth, the Incipient Boom in Household Formations, and the Impact of Alternative Housing Policies. October, 1978.

South End--BRA Research Department South End Data Analysis and Correlations Draft. Early 1970's.

Housing in Boston: Background Analysis and Program Directions--A Working Paper. 1974.

Estimated Housing Units by Census Tract (an inter-office communication memorandum). August 15, 1978.

The Prudential Center, Part One: Its Direct Impact on Boston. September, 1979.

The Prudential Center, Part Two: Its Effect on the Surrounding Area. December, 1979.

Subsidized Housing in the South End. September, 1978.

Boston's South End--Past and Present. February, 1974.

South End Environmental Assessment. Spring 1979.

Boston's Population; Reversal of Two Decades of Population Decline; Rebirth of the City as a Place to Live; Emergence of New Age Structure and Neighborhood Patterns. July, 1973.

The 1977 Community Development Block Grant Program for the City of Boston. April, 1977.

Government Center. February, 1970.

A Demographic Revolution: The Impact of Office Building and Residential Tower Development in Boston. December, 1972.

Boston's New High-Rise Office Buildings: A Study of the Employees and Their Housing Preferences. July, 1974.

Fenway-Kenmore--District Profile and Proposed 1978-1980 Neighborhood Improvement Program. Summer, 1977.

South End--District Profile and Proposed 1978-1980 Neighborhood Improvement Program. Summer, 1977.

Back Bay-Beacon Hill-Bay Village--District Profile and Proposed 1978-1980 Neighborhood Improvement Program. Summer, 1977.

Hotel and Convention Center Demand and Supply in Boston--Past, Present, and Future. March, 1979.

The Office Industry Survey--Part II: An Analysis of Office Tenant Responses. March, 1979.

Boston's New High Rise Apartments: A Study of the Residents and their Preferences. January, 1974.

Other Sources:

Harvard Urban Field Service and Urban Planning Aid. Report on the South End Urban Renewal Plan for Boston City Council Hearing. March 25, 1968.

Urban Planning Aid. Urban Renewal's Effect on Low Income Housing in Boston's South End. Cambridge, Mass.: October, 1967.

Boston Magazine. "The South End Today," October, 1965.

Gale, Dennis E. "Middle Class Resettlement in Older Urban Neighborhoods--The Evidence and the Implications." American Planning Association Journal (July, 1979), 293-304.

Consensus, Incorporated. 1978 Urban Renewal Survey of the South End. April, 1979.

Mayor's Committee on Rent Control, Report of the Mayor's Committee on Rent Control. Carol Corcoran, Acting Director. Boston, Mass., September, 1977.

Parkman Center for Urban Affairs. Young Professionals and City Neighborhoods. Kevin H. White, Chairman. August, 1977.

Public Systems Evaluation Incorporated and the Boston Redevelopment Authority. Stabilizing Neighborhoods: A Fresh Approach to Housing Dynamics and Perceptions. November, 1977.

Pattison, Tim. "The Process of Neighborhood Upgrading and Gentrification." Unpublished Ph.D. dissertation, Massachusetts Institute of Technology, June, 1977.

Hart Research Associates, Incorporated. A Survey of Attitudes Toward the City of Boston and its Neighborhoods. May, 1977.

Urban Investment and Development Corporation, Copley Place Economic Impact Analysis, July, 1978.

East Fens for Tomorrow, East Fens Profile, September 10, 1979.

Seifel, Elizabeth Margaret. "Displacement: The Negative Environmental Impact of Urban Renewal in the South End of Boston." Unpublished M.C.P. thesis, Massachusetts Institute of Technology, June, 1979.

San Francisco Planning and Urban Renewal Association. Impact of Intensive High Rise Development on San Francisco.

Federal Reserve Bank of Boston. Simulating the Economic Impacts of Reevaluation in Boston. July, 1975.

United South End Settlements. Comments and Recommendations Prepared in Response to the South End Urban Renewal Project (Mass. R-56) Draft Environmental Impact Statement. May, 1979.

Lincoln Institute of Land Policy. Rent Control: Its Effect on Housing Availability and Assessed Values. October, 1976.

The Urban Land Institute. Mixed-Use Developments: New Ways of Land Use. 1976.

The Boston-Fenway Program, Incorporated. Block Inventory. February, 1979.

The South End Project Committee (SEPAC) Housing Report (draft copy reviewed).

COPLEY PLACE
(BACK BAY)
E 19 R
1979

AUTHOR

TITLE Residential Property ...

DATE LOANED	BORROWER'S NAME

922